

THE  
MEDICAL EXAMINER,  
AND  
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ORIGINAL COMMUNICATIONS.

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*Case of Super-Fœtation.* BY A. N. READ, M. D.

Extract of a letter from Albert N. Read, M. D., addressed to the editor, dated Andover, Ashtabula county, Ohio, Jan. 4th, 1847.

"Permit me to mention to you one of nature's freaks in generation, which occurred in an adjoining township the past summer. A mare at one birth brought forth a well formed *colt* and a *mule*. She was put to the horse some two or three weeks after having received the Jackass. Both the colt and the mule are doing well. I am aware that the fact of impregnation by different males, is not new to physiologists, but the great difference in time, in this instance, I thought was worth mentioning."

The letter from which the foregoing is extracted, was duly received according to its date, but by one of those accidents to which editors are liable, in common with every body else, it was mislaid. The time which has elapsed, however, although it demands from us this apology to the writer, does not lessen the value of the fact which is related. We shall be glad to hear again from Dr. Read on the subject, and, if it can be ascertained, learn the exact number of days which intervened between the two copulations.—ED.



*On Animal Charcoal as an Antidote.* By B. HOWARD RAND,  
M. D., of Philadelphia.

The increasing number and fatality of accidents from the vegetable poisons and their active principles, of late years, has attracted the attention of the profession, for the purpose of seeking some antidote which might always be trusted, or some plan of treatment on which reliance might be placed.

M. Donné, some twenty years since, proposed the use of iodine, bromine, and chlorine, as antidotes, on the ground that they combine with the poisonous principle and form an inert compound. It has been found, however, that this inert compound is readily decomposed by acids, the poison being liberated unchanged; but a more serious objection to the use of these elements as antidotes is, that they are themselves among the irritant poisons, and must be given with caution.

Tannic acid has also been proposed, but the fact of its compound with the poisonous principle being slightly soluble in water, and freely so in acetic acid, would seem to render it ineligible. M. Bussey,\* has recently suggested the use of magnesia, but the experiments with it appear to have been confined to the mineral poisons alone.

The usual mode of procedure, then, in such cases, and the only one on which any hopes of success were founded, has consisted in the free evacuation of the stomach, and the use of such general measures as in each case might seem to be indicated.

In the Transactions of the Medical Society of London, new series, Vol. 1,† is a paper by Dr. A. B. Garrod, detailing some experiments in which he employed purified animal charcoal as an antidote. This is prepared from ivory black, by digesting it in dilute chlorohydric acid to remove the earthy matters, afterwards washing and heating it to redness in a covered crucible. The subjects of his experiments were dogs, rabbits, and guinea pigs. He administered large doses of opium, belladonna, aconite, nuxvomica, delphinium, stavesacre, white hellebore, and their alkaloïds, as well as digitalis, hemlock, tobacco, elaterium, ipecac-

\* Gazette Medicale de Paris, 23d March, 1846.

† Condensed in Braithwaite's Retrospect, Vol. xiii.



uanha, hydrocyanic acid, cantharides, and arsenious acid, without injurious consequences, when sufficient animal charcoal was given simultaneously with them, or, in some cases, before the peculiar effects of the drug were developed. It also prevented, but less completely, the action of the bichloride of mercury and of the salts of copper and lead.

Dr. Garrod concludes from his experiments :—

1st. That animal charcoal has the power of combining, in the stomach, with the poisonous principles of animal and vegetable substances, and that the compounds thus produced are innoxious ; therefore, when given before these poisons have become absorbed, it will act as an antidote.

2d. That animal charcoal will absorb some mineral substances, and render them inert ; but so large a quantity of the charcoal is required, that it is not so well adapted for many poisons of this class, as their own special antidotes ; the effects of arsenic, however, appear to be better combated by this than by any other article.

3d. That a certain *amount* of animal charcoal is required, about half an ounce to each grain of morphia, strychnia, or any other alkaloid—but, of course, much less for the substances from which they are obtained,—as opium, nux vomica, &c.; a scruple of nux vomica not requiring more than half an ounce of charcoal.

4th. That the antidote itself exerts no injurious action on the body.

Dr. Garrod also remarks that, “Ivory black has a certain amount of antidotal power, but would be required in very much larger quantities, containing above 90 per cent of earthy matter. Vegetable charcoal possesses but a small antidotal power compared with animal charcoal. Lamp black is totally devoid of the property.” He also suggests its use in poisoned wounds, syphilis, &c., in the form of a poultice, to absorb the virus and prevent its being taken into the system.

Previous to the publication of Dr. Garrod’s paper, the researches of MM. Wapen, Holpoff, Warrington, and others, had proved that animal charcoal is capable of removing from their solutions—in some cases only by the aid of heat—the bitter, resinous, or active principles of quassia and the other simple bitters ; of colocynth, aloes, and other purgatives ; of krameria and the other astringents;



of guaiacum, cinchona, opium, nux vomica, and, in short, of all vegetable substances submitted to its influence.

MM. Wapen, Chevalier, and Graham, have also discovered that it possesses the property of precipitating the oxides of a large number of metals from their solutions. Among the salts decomposed, may be mentioned the bichloride and the nitrates of the protoxide and deutoxide of mercury, the tartrate of antimony and potassa, nitrate of silver and of cobalt, neutral acetate of lead, chloride of tin, sulphates of copper, zinc, and protoxide of iron. The acid salts, and many of the neutral salts, were exempt from its action; among these were the arsenites of potassa and soda, the acid nitrate of mercury, and the cyanide and ferrocyanide of potassium. It precipitates the antimonie, tungstic, and plumbic acids, *but has no action on arsenious acid*. Iodine and the ioduretted iodide of potassium, were removed from their solutions, but sulphur was not.

To Dr. Garrod the credit is due of having first applied these facts to toxicology. It is true, however, that M. Bertrand, in 1813, proposed powdered charcoal as an antidote to arsenic, and is reported to have swallowed five grains of the drug in an emulsion of charcoal without bad effect. It is not stated, however, that he used *animal* charcoal, and its claims as an antidote, strictly speaking, to arsenic, have since been disproved.\*

The method of preparing pure animal charcoal from ivory black, before mentioned, is tedious and wasteful, only ten per cent being obtained, while the amount of acid used is considerable. A very good and pure charcoal is obtained by calcining leather scraps or blood with pearlash, washing and re-heating in a close crucible; it was this kind of charcoal which was principally used in the experiments to be detailed. Much of the discrepancy of experimenters with this substance, is undoubtedly due to their use of an impure specimen of it.

Taken internally, in moderate quantity, pure animal charcoal causes a sensation of warmth in the epigastric region, which soon subsides; the sensation produced by the hard particles in their passage through the pharynx and œsophagus, is disagreeable, and sometimes very persistent. In large doses, or when the stomach

\* Taylor on Poisons. Amer. Ed. p. 76.



is irritable, it produces vomiting, and sometimes considerable evidences of gastric irritation.

With a view of ascertaining more accurately the value of the proposed antidote, the writer performed a number of experiments, from which the following are selected as having the most direct bearing upon the subject.

1. One grain of pure morphia was swallowed with about an ounce of pure animal charcoal, in warm water; no narcotic symptoms supervened, but there was some gastric irritation which subsided in the course of the day.

2. One grain of sulphate of morphia was digested with pure animal charcoal until all bitterness was removed; the liquid, filtered off and swallowed, produced no effect.

3. Ten grains of extract of belladonna were swallowed with two drachms of the charcoal; there followed vertigo, dilated pupils, dimness of vision, exceeding dryness of the throat, and desire to sleep, all of which symptoms were relieved by the spontaneous vomiting of a very acid matter and the use of stimuli. The pupil remained dilated through part of the next day.

4. The last experiment was repeated, an antacid having been premised, and the proportion of charcoal being doubled. Some dryness of the throat followed, but with no other symptom of the influence of the drug.

5. Fifteen grains of powdered digitalis were taken, with three drachms of the animal charcoal, without the slightest disturbance of the functions.

6. Twelve drops of the officinal hydrocyanic acid were swallowed, with two drams of the pure charcoal, without a sedative result.

7. One grain of strychnia, dissolved by the aid of a drop of chlorohydric acid, was digested with animal charcoal until all bitterness was removed. The solution filtered and swallowed produced no effect; a similar solution evaporated and tested with nitric acid gave no red tinge.

8. One grain of strychnia was swallowed, with an ounce of pure animal charcoal; no effects due to the strychnia could be perceived.

9. The purgative extracts were next tried, but produced no effect when sufficient animal charcoal was taken.



10. Camphor and musk were removed by animal charcoal from their tinctures, so far that they did not precipitate on the addition of water.

11. Phosphorus was removed from its ethereal solution by the charcoal.

12. Iodine was so far removed from its tincture and compound solution as not to strike a blue colour with starch, and the iodine could not be liberated from the animal charcoal at a red heat.

13. Arsenious acid and a solution of arsenite of potassa were apparently unaffected, either in the hot or cold solution, by animal charcoal. This result, although it agrees with those of MM. Wapen and Graham, does not with the observations of Dr. Garrod, who states that animal charcoal "has greater power of removing arsenic from its solution than the hydrated sesqui-oxide of iron."

14. A solution of the bichloride of mercury, being treated with animal charcoal, gave, on filtration, no precipitate with ammonia.

It has been stated that the action of this agent is purely mechanical, enveloping the poison, thus protecting the coats of the stomach from its action, and preventing absorption, and that if given *after* the poison has been swallowed, instead of with it, it would prove useless. It has been said, also, that, considering this to be its mode of action, any ordinary inert powder, would answer equally well. This may be true as regards arsenic, which is not removed from its solutions by animal charcoal, and such is the result of the experiments of Orfila and Christison; but, the case of the alkaloids is different—they are wholly removed from their solutions by the animal charcoal entering into a firm union with them. Dr. Garrod's experiments show that vegetable charcoal and lamp black are nearly or quite useless in counteracting the effects of poisons, and that in the milder poisons the administration of the proper article might be delayed ten or fifteen minutes with safety. These facts certainly seem to show that it acts otherwise than by merely enveloping the poison; but, granting such to be its action, if it only prevents the fatal effects of the poison, we have all that is desired. Experience alone can determine its positive value as an antidote, properly so-called.

When given as an antidote, the animal charcoal should be mixed with water as hot as the patient can swallow, as its action is much aided by an elevated temperature; the administration of



large quantities of this agent alone (tepid) will often provoke emesis, which should be promoted by emetics or the stomach pump. Should a sufficient quantity of the poison have been absorbed to produce its peculiar effects, they are to be combated by general measures. It would be proper in many cases to combine the charcoal with an antacid, as any considerable quantity of free acid in the stomach is found to interfere with its action.

Since pure animal charcoal requires time and care in its preparation, and does not deteriorate by keeping, suitable quantities should be kept on hand by apothecaries, and by physicians in the country. It was found, however, upon enquiry of numerous apothecaries in this city, that many did not keep the article, and of those who did, few had more than two or three ounces, and that sometimes of questionable purity.

In conclusion:—we are perhaps justified in drawing, from the present state of our knowledge on this subject, the following conclusions:

1st. That animal charcoal has the power of withdrawing, when used at a proper temperature and in sufficient quantity, most, if not all, known vegetable and animal poisonous principles, and certain mineral poisons from their solutions.

2d. That, given at the same time, with, or shortly after these poisons have been swallowed, it prevents their deleterious action.

3d. That, given in cases of poisoning, it can exert no injurious influence, but, on the other hand, promotes vomiting, entangles the poison and protects the coats of the stomach against it.

4th. That, although it cannot be substituted for the usual antidotes in poisoning by mineral substances, yet it may be usefully employed in conjunction with them or in their absence.

The necessarily confined space of this paper, has compelled the writer to pass lightly over many important facts, and to leave untouched some points of interest, but of minor importance; among these are the questions of the possibility of the antidote being administered in time to be of use, in poisoning by the more rapidly fatal agents; of its probable *modus operandi*, and that of the loss necessarily resulting in filtering the *warm* solution of the alkalis, during their preparation, through animal charcoal, in order to decolorize them.



*Extensive laceration of the Liver and Diaphragm, from the kick of a horse.* By DR. E. C. BANKS, of Lawrenceville, Illinois.

Some time in the spring of 1844, I was called, in haste, to see a boy aged seven years and some months, son of a blacksmith, of this place. He had been kicked by a horse, and immediately became so bad, that his parents, who were summoned by the lady at whose house he was, thought it advisable to let him remain for a while, and have a physician immediately to see him, which they did. When the boy came to the house of the lady, he asked her for a bed, and said a horse had kicked him in the side, and placing his hand at the same time over the liver, said it hurt him very much, and that he wished his parents who lived in an adjacent block, to be sent for, which was immediately done. They came, and called in a young physician who then resided in the place, who applied stimulants externally and internally. I found the patient's pulse scarcely perceptible at the wrist, and very quick; extremities cold, cheeks red, and he was very restless, casting himself about from side to side, and swearing the bitterest oaths—language which he was not accustomed to employ in health. He manifested symptoms of pain, but could not give any information to us how and when the accident had happened, or where his distress was seated. Stimulants were applied,—warm brandy toddy internally, and warm bricks to his feet and hands, and also fomentations of hot water and brandy and Cayenne pepper applied by frictions to the extremities. Toddy given at intervals, so as to allow the same to be checked whenever the slightest appearance of reaction was perceived. The parents had me called shortly after the accident, thinking I would bleed him, as the other physician had refused to do so, and very properly. Finding, in spite of all our exertions by powerful frictions and warm applications externally, and toddy internally, that he was sinking, we gave him a warm bath, and kept him in it about twenty minutes. Took him out and wrapped him in warm blankets, continuing the toddy. Finding all means fail, and suspecting internal hemorrhage and a fatal termination, the family were informed of our apprehensions, and accordingly they had him placed on a bed and carefully carried down



to their own house, only fifty yards distant. Just as they were going into the house he expired.

On a post mortem next day, (this being about sundown) it was discovered that the liver was torn half across, just about the middle of it. His abdomen was literally filled with blood, as likewise his chest. Yet there was no mark, either internal or external, on the parietes of the abdomen, of any injury. Turning up the right lobe of the liver, we found the diaphragm ruptured to a wonderful extent, making an opening that you could put your double fists through. The blood had passed from the abdomen into the chest. The rent in the liver was so large that one could bury their two fists in it. It is proper to mention that the horse from which the kick was received, was without shoes. It seems extraordinary that the kick of a horse, without making any external mark, should tear the liver half in twain, and at the same time make such a rent in the diaphragm.

December 25th, 1847.

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### BIBLIOGRAPHICAL NOTICES.

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*Traité de Médecine Légale*, par M. ORFILA, Doyen et Professeur de la Faculté de Médecine de Paris, &c. 4ème édit., revue, Corrigée et considérablement augmentée, Contenant en entier le *Traité des Exhumations Juridiques* par MM. Orfila et Lesueur avec Planches. 4 tom. 8vo. Paris, 1848.

This is a new edition of one of those admirable works, which have given to the name of Orfila a wide spread reputation. As a medico-legal writer he may be regarded as one of the chief contributors to our knowledge of what is demanded of the medical practitioner in courts of justice; whilst his experiments and observations on poisons have tended, more perhaps than those of any other observer, to elucidate a subject full of importance and diffi-



culty. In his own adopted country, as elsewhere, he has been honoured as every contributor to science, and to the science of man especially, ought to be honoured; until recently, when the zeal—too often hasty, intemperate, and inconsiderate—which political changes engender—has led to his removal from the position in the Faculty of Medicine, which he had occupied so honourably and so ably, and the appointment of one in his place, whose political sentiments are more in accordance with those of “the powers that be.” Alas! that any political considerations should ever be permitted to have weight in the realm of science.

The removal of such an individual is no degradation to him, whatever it may be to those by whose acts it has been effected; and in the revolution of sentiments that may yet occur, his star may even shine brighter and more gloriously than it has hitherto.

It would be as impracticable as it would be deemed unnecessary, to attempt in our pages anything like an analysis of these large volumes, occupying the space of nearly *two thousand six hundred pages*. They comprise a full dissertation on the views of M. Orfila and of French observers more especially, of the subjects embraced by them. It is to be regretted here—as in the case of so many of the French writers on Medicine, as well as on almost all subjects—that their attention is rarely directed to fellow-labourers elsewhere;—a circumstance which is apt to lead the superficial to believe, that all science is Gallic in its origin and extension; and we think that such has been the impression made upon not a few of the young physicians, who have listened to the expositions of the teachers in the French metropolis; whilst no such impression has been made upon those whose minds have been better prepared for observing and judging, by a lustre or two spent in the active study and exercise of their profession at home. When, moreover, a rare reference is made by French writers to English or American observers, the names are apt to be *estropiés* in such sort as to be scarcely recognizable, and the translation so perverted from the original, as to give an erroneous idea of the views of the writer.

Under the head of signs of pregnancy, (vol. 1, p. 208,) we have an ample notice of the value of kystein as a diagnostic mark; and of the researches of “MM. Nauches, [Nauche,] Eguisier and Tanchou, in France; of Doctors Letheby and Stark in England, and of Kant [?] in America.” p. 229. This “Kant” is Dr. E. K.



Kane of this city, to whose excellent paper—the result of accurate and sustained observation—we have more than once referred in the pages of this journal.

At the end of each subject, M. Orfila gives reports, drawn up by authority. One of these on Pregnancy we extract, in order to show the mode in which they are required to be made by the French courts.

“*First Report*.—We, the undersigned, a Doctor of Medicine of the Faculty of Strasburg, on the requisition of the Procureur du Roi, signified to us by the Sieur D. officers, proceeded to say:—The 12th of June, at noon, accompanied by M. V., commissary of police, to the prison in which Madame \* \* \* aged twenty-five years, is confined, to discover whether she is *enceinte*. On entering the chamber No. 2, we found the said lady, who affirmed to us, that she was six months gone with child, as indicated by the aversion for food, and vomiting, which she had experienced for that time, the suppression of the catamenia, gradual tumefaction of the abdomen, and especially by the movements which she had felt for two months in the abdomen.

“Madame B. being in the erect attitude, the index finger of the right hand was introduced into the vagina, whilst the left hand was kept applied upon the abdomen; this permitted us to discover, that the neck of the uterus was drawn upwards and backwards: that the fundus of the organ, perfectly developed, corresponded with the umbilicus, and that the movements of *ballotement* could be detected. The urine contained *lyestein*. With the aid of the stethoscope, placed over the space which separates the umbilicus from the crural arch, we heard at least one hundred and thirty double pulsations per minute; and over another part of the abdomen, with the same instruments, simple pulsations, isochronous with the pulse of the mother, could be distinguished.

“These facts lead us to conclude, that Madame \* \* \* is about six months advanced in pregnancy. In testimony whereof, &c. Paris, June 10th, 1820.”

The present edition contains the entire treatise on Juridical Exhumations by MM. Orfila and Lesueur, which occupies upwards of three hundred pages of the first volume. It is an elaborate inquiry into the changes produced on the dead body at different periods after sepulture, and under varied circumstances; and is full of interest to the medico-legist.

The whole work ought, indeed, to hold a conspicuous place in the library of those who are desirous—and who are not?—of maintaining themselves on a level with the existing condition of the science.



*A Practical Treatise on the Diseases of Children.* By J. FORSYTH MEIGS, M. D., Lecturer on the Diseases of Children in the Philadelphia Medical Association, Fellow of the College of Physicians of Philadelphia. 12mo. pp. 575. Lindsay & Blackiston. Philadelphia: 1848.

This work is the third of the series of Manuals in the course of publication by one of our enterprising Philadelphia publishing houses. The two first we have already noticed in terms of commendation, and it is but just to state that the present is entirely on a level with its predecessors. The author is a son of the eminent Professor of Obstetrics in Jefferson Medical College, and, like him, is distinguished for his ardent devotion to obstetrics, and to the study and treatment of the diseases of women and children.

"The motives," we are told, "which led the author of this volume of the Medical Practitioner's and Student's Library, to undertake its preparation, were the hope that the details of his own experience might prove of some utility, and the belief that a work on the Diseases of Children, executed upon a somewhat different plan from those already before the profession, might not be an unacceptable addition to the medical literature of the country."

"In the preparation of the work no pains has been spared to make it both methodical and accurate, and as complete as the limits of the series would allow. The classification of diseases according to the systems which they affect, has been adopted by the writer as the most convenient. The divisions of each article are those employed by the most eminent among recent systematic writers."

Although the preface announces as a prominent motive of the author, in preparing this volume, to give "the details of his own experience" to the profession, still, he acknowledges that he "has availed himself, as fully as possible, of every authority of importance placed within his reach, always, however, endeavouring to judge what came under his notice, by knowledge derived from his personal experience in private practice." In the expressive language of Dr. Bell, we may say that the author "disclaims the particular absurdity of professing to write an original work on the practice of medicine."



The diseases which are treated of in the work, are comprised in five CLASSES: Class I. *Treats of Diseases of the Respiratory Organs.* Class II. *Diseases of the Digestive Organs.* Class III. *Diseases of the Nervous System.* Class IV. *Eruptive Fevers.* Class V. *Worms in the Alimentary Canal.* These again are further divided, according as they are marked or not by appreciable alterations of structure.

It will be perceived that all the diseases to which infancy and childhood are particularly predisposed, are not included in this classification. Thus we have nothing on diseases of the circulation, nor diseases of the skin, except eruptive fevers; etc. These omissions, we presume, are in consequence of the limited space assigned to the volume; but we cannot help expressing the hope that it will be otherwise in the next edition. Upon this point, we would call the attention of our friend, the author, to the opinion of Dr. Johnson, that "a writer is required to make his book a whole, which shall contain all the reader wishes to be informed of upon the subject laid before him." The general merits of the book entitle it to be thus perfected. As it is, the production is creditable to the industry and discrimination of the author, and well calculated as a text-book for students, or for ready reference by the young practitioner. The reader will find it to contain, in a brief compass, the most approved views of modern authoritative writers, expressed in plain and appropriate language.

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*The Half-Yearly Abstract of the Medical Sciences.* By WM. H. RANKING, M. D., etc.; assisted by W. A. GUY, M. D., GEORGE DAY, M. D., HENRY ANCELL, M. D., and W. KIRKES, M. D. No. 7—January to June, 1848. Lindsay & Blakiston. Philadelphia. 1848.

We have not yet received our London copy of No. 7 of Ranking's Abstract, but already we have the re-print of it by Lindsay & Blakiston. From this fact our readers will see that they have a better chance of getting the work promptly from the American than the foreign publishers.

In the number before us, we find the same rich and judicious selection as in preceding numbers, which received our unqualified



commendation. The *Reports*, too, which we regard as a valuable feature in the work, are drawn up with great ability. The following are contained in the present number. 1. *Report on the progress of Practical Medicine, Pathology, and Therapeutics*, by the Editor, Dr. Ranking. 2. *On the progress of Surgery*, by H. Ansell, Esq., etc. 3. *On the progress of Midwifery, and Diseases of Women and Children*, by the Editor. 4. *On the progress of Forensic Medicine*, by Dr. Guy. Beside these, there is a supplementary report *On the recent progress of Psychological Medicine*, by Dr. Lockhart Robinson.

The Philadelphia publishers have done justice to the volume, by the neat and careful manner in which it is printed and brought out.

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*A Dispensatory, or Commentary on the Pharmacopœias of Great Britain (and the United States); comprising the Natural History, Description, Chemistry, Pharmacy, Actions, Uses, and Doses of the articles of the Materia Medica.* By ROBERT CHRISTISON, M. D., V. P. R. S. E., etc., etc. *Second Edition, revised and improved, with a Supplement, containing the most important new remedies, with copious additions, and two hundred and thirteen illustrations.* By R. EGLESFELD GRIFFITH, M. D., Author of a Medical Botany, etc., etc. 8vo. pp. 1008. Lea & Blanchard. Philadelphia, 1848.

The first edition of Dr. Christison's Dispensatory was published at Edinburgh in 1842. Since then, the rapid strides of Chemistry have made us acquainted with improved modes of preparing and compounding some valuable medicines, and various articles have been added to our list of the Materia Medica, necessarily imposing on the author very extensive alterations of the text, as well as the addition of much important matter. These modifications and additions, so far as the wants of British practitioners are concerned, have been made by the distinguished author; but to adapt the work to the necessities of American pharmacutists and prescribers, further additions were required, and these have been made with much care and accuracy by the editor.



*Proceedings of the Annual Convention of the Connecticut Medical Society, May, 1848, together with a list of Members, and the Annual Address.* Hartford. 1848.

*Transactions of the Medical Society of the State of New York.*  
Vol. vii. part 2. Albany, 1848.

The Convention of the State Medical Society of Connecticut, is constituted of the members or delegates from the county societies of the State, eight in number, containing altogether three hundred and ninety-six members.

The annual address of the present year was delivered by B. Fordyce Barker, M. D. It is entitled "Remarks on some forms of disease of the Cervix Uteri," and contains some good practical suggestions.

The *Transactions* of the New York State Medical Society are always interesting, as the meetings of so large a body of professional gentlemen must ever be. The present publication, besides the usual abstract of proceedings and reports, contains addresses on various subjects by Drs. Blatchford, Brisbin, Bates, Thompson, Sprague, and Purple.

The following gentlemen are the officers for the present year :  
Dr. Alexander H. Stevens, President.

" Alexander H. Thompson, Vice President.

" Peter Van Buren, Secretary.

" Peter Van Olinda, Treasurer.



## THE MEDICAL EXAMINER.

PHILADELPHIA, SEPTEMBER, 1848.

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PROFESSOR SYME, OF EDINBURGH.

It will be recollected that, on the decease of Mr. Liston, Mr. Syme of the University of Edinburgh, was elected to his place in University College and University College Hospital, London. This, although regarded as an excellent appointment, gave great offence to the London Surgeons, and especially the Alumni of the College, who believed that there were among them equally competent individuals whose claims had been overlooked. Under these circumstances, and to avoid being a party to the angry controversies going on among the officers of the College and the profession, Professor Syme, although he had removed his residence to London, immediately resigned and returned to Edinburgh, where he has resumed his duties as Surgeon of the Infirmary, and is a candidate for re-election to the chair of Surgery in the University of that city. The step which the distinguished Scotchman has taken is honourable to himself, and will be eminently advantageous to the institutions of which he has long been so great an ornament. No appointment has yet been made to the vacant chair in London, and as it will now probably be confined to the Surgeons of that city, who appear to be about as harmonious as the Kilkenny cats, we shall see how much better they will be satisfied. We apprehend they have found it much easier to unite *against a foreigner*, than it will be to unite *in favour of any one of themselves*, and judging from the past, we may expect to see the announcement of the election of the new professor assailed as violently, and, with the exception of the successful candidate and his friends, as unanimously, as in the case of Mr. Syme.

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UNIVERSITY OF PENNSYLVANIA.

From the annual report of the Faculty, we learn that George W. Norris, M. D., has been appointed Professor of Clinical Surgery, vice Dr. Jacob Randolph, deceased. This is a good appointment. Dr. Norris is one of the Surgeons of the Pennsylvania Hospital, where his lectures will be given, and to which all who take the ticket of the Hospital will have access.



## EXTENSION OF THE LECTURE TERM.

We have received the annual circulars of a considerable number of the Medical Colleges in the United States, from which, and the advertisements in the Medical Journals, we have gleaned the following information, by which their action in reference to an extension of the lecture term may be seen.

Institution.	No. of Professors.	Length of Term.
Harvard, (Boston,)	7	Four months.
Berkshire, (Mass.)	6	Fourteen weeks.
Dartmouth, (N. H.)	6	Fourteen weeks.
Castleton, (Vermont,)	6	Four months.
Yale, (Conn.)	6	Sixteen weeks.
University of New York,	6	Four months.
Buffalo, “	7	Twenty weeks.
Geneva, “	6	Sixteen weeks.
Albany, “	7	Sixteen weeks.
Col. Phy. and Surg. “	7	Five months and a half.
University of Penn.	7	Five months and a half.
Jefferson Med. Col.	7	Four months and a half.
University of Maryland.	6	Four months and a half.
Hampden Sidney, Va.	6	Nearly five months.
University of Virginia.	3	Eight months.
Winchester Med. Col.	5	Seven months.
Med. Col. of S. C.	7	Five months.
Georgia Medical College.	7	Five months.
Memphis Med. Col.	7	Four months.
Transylvania Un., Ky.	7	Four months.
Un. of Louisville, “	7	Four months and a half.
St. Louis Univ. of Mo.	8	Four months and a half.
Univ. State of Missouri,	6	Four months and a half.
Ohio Med. Col.	6	Four months.

The advertisement of Transylvania University states, that the “session will open on the first Monday in November next,” and the Medical department of the University of the State of Missouri “on the 16th of October,” but without mentioning when they will terminate; we infer, therefore, that the Lectures in these institutions will conclude about the first of March, as heretofore.

From the above table it will be seen that in one of the schools, the lecture term is eight months; in another, seven months; in two, five months and a half; in three, five months; in five, four months and a half; in six, four months; in three, sixteen weeks; in two, fourteen weeks.

It would appear that a majority of the schools, *including all of*



those in the *New England States*, and three out of five of the New York schools, continue to adhere to their former term. Much disparity likewise prevails in the number of lectures delivered during a course. The report of the committee on this subject, submitted to the convention which assembled in Philadelphia in 1847, argues that "It is next to an impossibility, that the strongest intellect can receive and well digest some half a dozen discourses or more a day, embracing subjects which have sometimes little or no immediate connection with each other." \* \* \* \* \* "With a lengthened period for teaching, a double advantage will be gained; a wider extent of information may be imparted to the student, while his time will be occupied with fewer lectures during the day."

Some of the schools which have most extended the period of their sessions, we understand have diminished the number of their daily lectures, so that there is not a corresponding increase in the amount of instruction given; while others, with a *less extension*, continue to give the same number of daily lectures, and thus add materially to the number of lectures, and consequently the amount of instruction imparted during the term.

The editor of the *Annalist*, one of the most able and zealous of the advocates of reform, referring to "the actions of the conventions on this subject," remarks: "We acquiesced, but very reluctantly, in the fixation of the term at five months, by the American Medical Association, and yet live in hopes that the future will see the period further increased."

Commenting on the annual circular of the University of New York, the editor observes: "The circular goes on to oppose, as if it were a *sine qua non*, the plan adopted in some institutions of reducing the number of daily lectures, while the terms of attendance are increased. With this plan we have no fellowship, and shall not stop to exhibit its demerits. *It is, it appears to us, no improvement on the old system.*

"We fully agree with the Faculty of the University, that six lectures a day, are not more than an industrious student can attend without injury to his health, or risk of becoming inattentive from fatigue. We did it during the three latter years of our studentship, taking notes of several of the lectures, attending to the hospital practice, and having besides, leisure of an evening to write out some of the notes taken during the day, and for dissecting during the session; and we were never better in health, nor happier, than when thus busily engaged."—*N. Y. Annalist*, Aug, 1st. 1848.

The Faculty of Jefferson Medical College, in their last *Annual*



*Announcement*, hold very nearly the same language: "The prevalent idea, that too much is attempted to be taught in the four months generally allotted to the medical session, is of more recent origin."

"The time usually employed in lectures during four days in the week is six hours, and it is acknowledged in all professions, and has been especially so by lawyers from Lord Coke downwards, that six hours daily ought to be devoted to professional reading. To lecture may be regarded as synonymous with 'to read;' consequently the medical student who listens to six lectures in the day may be looked upon as having been 'read to' for six hours; and there can be no essential difference between *reading* and being *read to*, except in the circumstance, that the latter is much easier for the student. The well informed and able lecturer adapts his elucidations more readily to the comprehension of his hearers than can be done in the best books. He has an opportunity of perceiving whether he is understood; and should he think he is not, he modifies or repeats his instruction."

Our individual experience confirms these views. We have had a pretty extensive opportunity of judging of the operation of the system of full lectures and moderate sessions, and we are fully persuaded, that indolent young men with long purses, prefer long sessions and few lectures, while the more industrious, with moderate means and correct habits, are unwilling to lose an hour in the day, and prefer to learn as much as possible within the shortest practicable period.

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## RECORD OF MEDICAL SCIENCE.

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*Case of successful Extirpation of the Ovary.* By H. MILLER, M. D., of Louisville, Ky.—Mrs. McLaughlin, aged 37 years, came to this city last winter, from the State of Indiana, for the purpose of consulting me in relation to a tumour in the abdomen, which was a source of no little annoyance to her on account of its size. On inquiry, I learned that she had first observed a tumour, of no great size, in the right iliac region, some time during the previous fall, (1837,) which increased rapidly till it acquired its present magnitude. The menses had only appeared once or twice, and that in small quantity and of short continuance, since the tumour first attracted her attention. She had felt no acute pain in the tumour, at any time, and her general health did not appear to have suffered much, her



appetite and digestion being pretty good. On examination I discovered a large tumour in the abdominal cavity, extending considerably above the umbilicus, and mostly occupying the right side, but stretching across the linea alba. Its shape was irregularly globular, and its consistency variable, being, at some points, much firmer than at others,—and in portions of it, fluctuation could be distinguished. Pressure upon it, even rude handling, gave no pain, and it appeared to be, in some degree, moveable in the cavity.

Examined *per vaginam*, the tumour could be felt within the pelvis, and the uterus was found in its normal condition.

The history of the case, in connection with the examination I made, left no doubt on my mind, that the patient was laboring under enlargement of the right ovary, most probably caused by multilocular degeneration of the organ: but I had the advice of my friend and colleague, Professor Gross, who, after examination, concurred with me in opinion.

The patient was made acquainted with the nature of her disease, and informed that but little hope could be entertained of relief from medicine; that the only certain method of cure would be to remove the tumour with the knife, but that the operation might itself prove fatal. Notwithstanding the little encouragement given her, she was anxious for an operation, preferring the risk of death to her uncomfortable situation, and the prospect before her, should she be abandoned to her fate. I could not, under the circumstances, refuse to operate; but advised her, as the weather was cold, and her means of procuring comfortable accommodation scanty, (she is poor and a widow besides,) to return home and come back in the spring, when the weather would be more favourable. Some medicine was prescribed for her and a suitable regimen enjoined.

I hoped the poor woman might be benefitted by the remedies directed, or that, at least, she would decide, on cool reflection, to bear the ills she had, for I had not much hope that she would survive an operation, and still less inclination to perform it. I was therefore, not a little startled, about the middle of March last, by the tall, lean figure of Mrs. McLaughlin stalking into my office, with undiminished abdominal protuberance.

She had made her second journey, as her first, to the city, under the friendly cover of a neighbor's wagon, and this time seemed resolved to be rid of her burden. Seeing no help for it, I determined to make a virtue of necessity, and promised to do for her all that she desired.

Mrs. McLaughlin, at her second appearance, was not so well as at the first; the tumour had not perhaps sensibly increased in size, but she had emaciated perceptibly, and there was a frequency and quickness of pulse that betokened hectic irritation of her system. Her appetite had become poor; her bowels were irregular, and the tongue red and sore. It seemed to be proper to get her system into a better state before resorting to an operation, so likely to test its powers of endurance; and accordingly she got mild alterative and aperient



medicines every day till the secretions became healthy, the tongue more natural, and the pulse less accelerated, when, on the 29th of March, 1848, a council was convened, consisting of Professor Gross, Drs. T. L. Caldwell, Bayless, and Colescott, to decide upon the propriety of an operation. It was judged to be advisable, at that time, merely to puncture the tumour, where fluctuation was most evident, with the view of diminishing its size, and allowing further time for the system to get into a better condition. I accordingly punctured it with a trochar, in the linea alba, about three inches below the umbilicus, and discharged *twelve pints*, by measure, of a whitish, ropy, albuminous-looking fluid. When the fluid ceased to flow, the abdomen was flaccid to the left of the linea alba, and a short distance to the right; but in the right iliac region, reaching up to the ribs of the same side, it still felt hard and unaltered in shape. No unpleasant symptoms followed the operation, and the puncture soon healed.

April 6th, 1848. With the concurrence and valuable assistance of Professor Gross, and Drs. Bayless, Colescott, W. B. Caldwell, and T. G. Richardson, and in the presence of several students, I performed the operation of extirpating the diseased ovarium. The patient being placed upon a table, on her back, her feet resting upon a chair, and the chloroform having been administered, an incision was made through the integuments, over the linea alba, from the umbilicus to the pubes. The fasciæ and peritoneum were then divided, by several strokes of the scalpel, at the upper part of the incision, and a finger introduced to guide the probe-pointed bistoury, with which an incision was made through these tissues corresponding to that of the integuments. The tumor was now brought to view, and found adherent, though not very firmly, to the omentum and parietes of the abdomen. To break up these adhesions, obstetrician-like, I passed my hand into the abdominal cavity and around the tumor, and had no difficulty in accomplishing the object. It was soon ascertained that the tumor was too large to be pushed through the opening that had been made, but rather than extend this, I punctured two of the cysts, and discharged a quantity of fluid, resembling that which had been drawn off by tapping a week previously,—the quantity could not be estimated, as it was suffered to run upon the table, whence it flowed across the room. By getting my hand posterior to it, I now drew the tumor through the incision, and supported it while Professor Gross secured its pedicle, by a strong ligature, passed through the broad ligament, and tied round the Fallopian tube and ligament of the ovary, and then severed its connections by cutting across the broad ligament near the inferior part of the diseased ovary. Finding that the vessels of the outer extremity of the broad ligament bled considerably, these were secured by another ligature which included the whole of its margin.

The tumor being removed, the ovarian fluid which had been effused, in considerable quantity, into the abdominal cavity, and likewise the blood, were carefully sponged out, and the incision was



closed, as usual, by the interrupted suture, adhesive strips, compresses, and bandage, the ligatures having been brought out at the inferior part of the incision. The operation was commenced at 1 o'clock, P. M., and the patient was put to bed in less than an hour, having borne it remarkably well; in fact, as she declared, very little pain, being under the influence of the chloroform.

Five o'clock, P. M., same day. The patient is comfortable; pulse sixty-eight, and volume good; she has vomited once, and complains still of occasional nausea. Gave her thirty drops of laudanum, which is to be repeated in an hour, if not relieved. Alarmed by discharge from the wound, immediately after vomiting, and supposing that there was internal rupture, she sent for me at 10 o'clock at night; although she seemed very much as at the evening visit; to satisfy her the dressings were removed, and it was discovered that there had been a free escape of bloody serum from the inferior angle of the incision.

April 7th—Morning. Found my patient comfortable; no pain or sickness, or tenderness of the abdomen; but she had slept little or none; had not urinated, and said she could not in the recumbent position to which she was strictly confined. Catheter. Ordered to keep quiet, and to have no nourishment but rice, rice-water, or weak tea and toast.

Evening. Slight febrile excitement; pulse seventy-two; skin warm; had slept some, and had passed urine.

Eighth—Morning. Had slept some; was comfortable, complaining only of weariness of confinement to back; had urinated; appetite; pulse sixty-eight, and good.

Evening. Pulse as in the morning, and nothing worth noticing had occurred.

Ninth—Morning. Had slept; cheerful; pulse sixty-eight; no pain; tongue slightly furred; bowels not having been open since the operation, attempted to relieve them by a large warm-water injection, but very little *fæces* were brought away by it.

Evening. Says she had some pain in the bowels, during the day, tongue not more coated than in the morning; a little fulness in the epigastrium; directed a dose of pills containing blue mass, rhubarb, aloes, and soap.

Tenth—Morning. The pills having failed to operate, used the syringe again, but without effect; no pain or swelling of abdomen; rested better last night than since the operation; pulse sixty-eight.

Evening. Bowels not having acted, ordered tablespoonful of castor oil, to be repeated, if necessary.

Eleventh—Morning. The oil had purged freely, several times, in the course of the night; no complaint.

Evening. Nothing to note.

Henceforward a diary would not be interesting; suffice it to say, that no unfavorable symptoms occurred, at any time; her appetite gradually became good; the bowels acted naturally, or at most she took a little oil once or twice. The wound was examined on the 16th of the month, but finding that it was not yet firmly united, the sutures



were not cut, nor were the ligatures pulled. On the 19th, there being some suppuration about the threads, the sutures were cut and removed, and the adhesive strips, &c., replaced; the ligatures were not touched. On the 25th, one of the ligatures yielded to gentle traction and was removed, but the other, although gently pulled at every dressing, did not yield till the 7th May, at which time the wound was firmly closed, except the small opening through which the ligatures were brought out. The next day, she crossed the river to New Albany, where she had relations, to look out for the same friendly kind of conveyance home that had brought her to the city. I have only heard since that she got a wagon to her notion, and there is no reason to doubt that Mrs. McLaughlin is at this time as notable a housewife as in days of yore.

NOTE.—The tumor, notwithstanding the tapping and the puncture of two of its cysts, at the time of the operation, weighed nine and a quarter pounds. It is composed of many cysts, of various sizes, having strong, thick walls, with smooth, polished linings, and filled, as many of them as were opened for inspection, with the same ropy, white fluid, as that discharged by the trochar. It is preserved in alcohol.—*Western Journ. of Med. and Surg.*

*Gun-shot wound—ball opening the gravid uterus—death in twenty hours.* By PAUL F. EVE, M. D., Professor of Surgery in the Medical College of Georgia.—At 1 o'clock, A. M., March 20th, 1838, I was called up to see Charlotte, a negro girl aged 19 years, said to have been accidentally shot. On arriving, I found Dr. R. in attendance, and learned that our patient had just received a pistol ball at the distance of about six paces. She was engaged with a large dancing party when interrupted by the accident. She was standing near the fireplace at the time; the ball entered just above the anterior superior spinous process of the ileum, and penetrated transversely the hypogastric region. The probe and finger could follow in its tract, without, however, ascertaining where it had lodged or whether it had opened the abdomen. There was no external hemorrhage nor intestinal protrusion. Besides the shock to the general system, there were no special symptoms beyond the ordinary appearance of a gun-shot wound. Upon inquiry, we learned that Charlotte was about the fourth month of utero-gestation.

At 4 o'clock a loop of the bowels protruded through the external wound, which was immediately returned by taxis, and then retained by compress and bandage. Our patient now exhibited symptoms of prostration, which continued to increase, notwithstanding the means employed to counteract them, and she died at 8 P. M.—twenty hours after she was shot.

Early the next morning, 21st March, in presence of the Medical Class, the abdomen was laid open by a crucial incision. About half a gallon of clotted blood was removed from the pelvis, and a *small fetus with its secundines*. The ball was found to have penetrated the abdominal parietes, passing through two or three convolutions of



the small intestines, without producing any escape of their contents; it then made quite a large, ragged opening into the uterus, at its anterior superior portion of the fundus, and striking the left iliac fossa, dropped into the cavity of the pelvis. Its range was transversely across the hypogastrium, and from above downwards.—*South. Med. and Surg. Journ.*

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*Angina Folliculosa of the Pharynx*, (hypertrophy of the follicles of the pharynx,) by M. CHOMEL. (Translated for the Medical Examiner.)

Authors on internal pathology say nothing of this affection; even Pinel does not mention it. It is difficult to account for the silence of so many minute observers, on a disease which, although not very common, is still frequently met with by those who examine the throats of their patients. M. Chomel has collected during the past year, twenty-two cases. It is not a very dangerous disease, but is exceedingly annoying to the patient, who, for that reason, is willing to submit to any treatment.

It is characterized by the abnormal development, or hypertrophy, of the follicles of the pharynx, uvula or soft palate. It may occur at any age, but is mostly to be seen in those from fifteen to thirty years old. It is also more frequent in men than in women, in the proportion of seventeen to five.

We often observe in patients affected with this disease, that there is a very peculiar shape in the superior maxillary bone. Instead of forming a regularly curved arch, it rises very rapidly from the alveolar process of either side, and meets at an acute angle at the top. In consequence of this the nasal fossæ are very much contracted, and the air passes with much more difficulty by that route; the person is obliged, therefore, to breathe more or less with the mouth. The upper lip is usually quite short, exposing the superior incisor teeth to view, and causing the patient to sleep with the mouth open.

We are particular in describing these anatomical peculiarities, says M. Chomel, because we do not regard it as a simple coincidence, but as being concerned in the production of the disease of which we are speaking.

Every organ which secretes more than is natural, tends necessarily to become hypertrophied. In order to prevent the pharynx from becoming dry, in patients with the above conformation, the follicles take on excessive action, and in that way they gradually enlarge.

The patient is often simultaneously affected with *herpes*, while many have suffered with *acne*.

Profession exercises a great influence in the development of the disease in question. In singers we see the follicles very much enlarged sometimes without causing any inconvenience; in that case it cannot be considered a morbid affection. The mucous membrane may even be thickened and red without being diseased. There is no desire to expectorate during the act of singing, but after returning home, or ceasing for a time to sing, secretion takes place freely.



In most cases the disease comes on very gradually, and, after arriving at a certain stage, is very troublesome to the patient. It often begins with a slight cough, accompanied with expectoration just like an ordinary catarrh, which it is supposed will soon get well and requires no attention. When the secretion has become very great, however, it is very troublesome. Some persons say that the attack has been, in them, very sudden.

The disease evinces itself first, by a disagreeable sensation in the back part of the throat; the patient makes painful efforts to swallow or expectorate the mucus lodged at the top of the air passages; he is forced to drink small portions of water to relieve the painful irritation, and does in reality succeed for a short time in this way.

In mild cases, on depressing the tongue with a spoon, several small, round, red points about the size of a millet-seed may be seen. At this stage the follicles are not very prominent, but at a later period they are larger and in the form of disks, in shape like a small lens; sometimes they are ovoid. In other instances, or where the disease is farther advanced, these hypertrophied patches are elongated, and form a projecting tumour, in other cases again, the whole surface of the pharynx is covered with these patches, leaving small points here and there, where the mucous membrane is in its natural condition.

The alteration in the follicles is not always proportionate to the intensity of the symptoms; that depends upon the impressibility of the patient.

It is not unusual to find the surface of the follicles covered with a thick, adherent mucus, which the patient must first remove by coughing or gargling, in order that we may see the extent of the lesion.

The disease is essentially chronic, sometimes it disappears of itself, or yields to the most simple remedies; at others it is stubborn, and resists all the remedies we can use.

The prognosis is not at all grave; it never endangers life, but often obliges the patient to change his profession. The exercise of the voice constantly aggravates the symptoms; the lawyer is obliged to turn magistrate, and the singer to devote himself to instrumental music.

The cough is guttural; it does not come from the chest, neither does the mucus, which is not generally large in quantity; it is in the form of a globule, about the size of a pea, very tenacious and semi-transparent. Occasionally, especially in the morning, the diseased surface is covered with black points, which alarm the patient very much, because he fears phthisis. These points are merely little particles of carbon, which are emitted by the lamps. To the physician they are of no moment.

The voice is changed, and as this is an accompaniment of phthisis, many persons are very much frightened by it, particularly students of medicine; but the remaining symptoms, and the examination of the throat, remove all doubts on this point.

Speech is tiresome, and it is for this reason that the patient commonly comes to consult the physician. Reading aloud is very fatiguing, and the patient cannot continue it long at a time. Sometimes a very



tenacious mucus collects, which prevents the person from speaking at all for a short period.

Singers notice that in singing they have lost one or two notes, and their voice is less clear and sweet.

On examining the throat, the mucous membrane covering the palate is found to be redder than usual; this redness is not uniform. There are small red points which increase in number as they approach the uvula; these same red points may be observed on the half-arches of the palate; but it is in the pharynx that the disease is most marked.

The diagnosis is by no means easy; there are individuals, however, whose fauces are so sensitive that it is exceedingly difficult to examine their throats. It is best to frequently repeat the examination, and not to confound the morbid enlargement of the follicles with their natural development which exists in lawyers and singers and demand no treatment.

The treatment is accompanied by many difficulties. Cauterization is the most convenient and the most efficacious, but it is not easy sometimes to limit the caustic in its action, so as not to perforate the mucous membrane. The best caustics are the nitrate of silver, the nitrate of mercury, or nitric acid diluted with three parts of water and applied by means of a sponge. We cauterize, in this way, the whole surface, both healthy and diseased. If the tumours are small, they may be touched several times, at intervals of three or four days. In this way, we get the action both of a caustic and astringent, and sometimes will cure our patient.

The caustics we have just mentioned, should not be used, as a general rule, until milder remedies have failed. We should first have recourse to borax or alum, as a gargle, in solution, (fifteen grains dissolved in a tumbler-full of water;) this will suffice sometimes to restore the parts to their natural condition; mostly, however, it only relieves the patient for the time being.

The sulphur waters of the Pyrenees and Enghier, are frequently employed with success, those of Enghier especially, in consequence, doubtlessly, of the sulphate of lime which they contain. M. Chomel advises to drink two glasses of this water in the morning, gargling with it first, and then swallowing it by mouthfuls, so as to give the parts a sort of local bath. In the summer season this may be combined with baths and douches on the neck. Reading aloud, and talking, must be avoided. The diet must be moderate. All acrid, stimulating food, such as is prepared with butter, or fried, and all vegetables and green fruits should be avoided. Lastly, it is necessary to reduce to powder, or soften such aliment as is very hard—such as crusts of bread—so that it shall not scratch and irritate the fauces when swallowed. — (*Revue Médico-Chirurgicale*, from the *Gazette des Hôpitaux*.)

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*On Gutta Percha, or Gum Gettanea, a new substance imported from Singapore.* BY MR. SOLLY and M. SOUBEIRAN.—A remarkable substance bearing the name of Gutta Percha, and in several respects analogous to caoutchouc, though in others very different to that arti-



cle, was imported last year from Singapore, and attracted the attention of experimental inquirers. Gutta Percha was first sent in 1843, by Dr. Montgomery, who received from the Society of Arts a gold medal as a reward for the introduction of this substance, which was considered capable of many useful applications in the arts. This gentleman appears not, however to have made known anything of its history, unless that it could be obtained in very great quantities at moderate price, and that it was much used by the natives as a substitute for horn or wood in many instances, particularly in the manufacture of the handles of knives.

These several applications are the result of the property which this substance possesses of being softened by heat and becoming firm and hard on cooling, retaining at the same time the forms in which it has been moulded. In this respect it continues in a state of perfect preservation, and is subject to no rupture on wearing, to such a degree that it is represented to be preferable to buffalo-horn in the uses in which this last substance is employed.

In the Journal of Agriculture of the India Society, Dr. Mouatt states, in his account of the chemical examination of this substance, that he obtained results analogous to those obtained in this country by Mr. Solly. Dr. Montgomery ascertained that Gutta Percha, or Gutta Tuban, according to the Malays, is produced by a large tree which grows at Singapore and the neighbouring districts. According to a note of Mr. White, this tree appears to belong to the natural family of Sapotaceæ or Ebenaceæ. The trunk is straight and tall, about three feet in diameter at the base, with numerous branches. The timber is hard. The leaves are alternate petiolated, oblong, slightly-pointed at the apex, conical at the base, from five to six inches long; the lower surface of brown-red, covered as well as the side and the petiole, with a thick down. The flower axillary, sessile, inserted by fours in a small white calyx, persistent, with six divisions, in double series, the external the larger.

The corolla monopetalous, six-fid; the lobes one fourth of one inch, and the tubes one-eighth of one inch long; caducous.

Twelve stamens in one single series, equal inserted at the opening of the tube. The filaments equal in length to the lobe of the corolla. The anthers sagittate, fixed by their basis to the filaments. Pollen not abundant. Ovary superior, conical sessile, placed on a disk; six cells, each containing one single *ovulum* suspended by a central axis, filament well-marked.

The mode of preparing Gutta Percha is not known. It appears, nevertheless, that it is procured by felling the tree which produces it. It is probable that the sap is removed in layers in proportion as they dry, and that these layers are then united, so as to form solid masses.

The specimens sent to England are in two forms. One set have the appearance of shreds or cuttings of white leather; others of solid rolls, which being cut across, show the thin layers, the assemblage of which form the entire mass.



These masses are far from being pure. A considerable quantity of wood sawings and other vegetable remains appear in the mass.

Gutta Percha is an opaque white, or dirty white substance, with little or no odour, tasteless, insoluble in water. Its colour depends apparently on the presence of the impurities which it contains; for, when purified by hot water in the manner now to be described, the water acquires a coloured tint, while the substance becomes white or gray. It has a silky fibrous texture, which becomes more distinct when the mass is slightly stretched; it is soft, almost unctuous between the fingers, and at the same time it has great resistance.

At ordinary temperature it is hard, leathery, and slightly flexible, when in thin plates presenting the physical characters of horn. Above  $50^{\circ}$  it becomes more flexible, slightly elastic, but always retaining its hardness and remarkable resistance. It contracts little when it has been forcibly stretched.

At  $65^{\circ}$  and onward to  $70^{\circ}$  this substance becomes soft and very plastic; its tenacity diminishes greatly. In this state several portions may be united with great facility, so as to form one body. It is easily purified by immersing it in hot water, when the impurities are quickly and completely separated, and a solid mass of pure substance is obtained.

When crude Gutta Percha is thus softened in boiling water, or by exposure to heat it may receive all the desired shapes; and by cooling it recovers its original hardness, preserving its figure; consequently it may be employed in forming casts of medals, which have all the perfection of those formed by sulphur, without the fragility of these last.

When the substance is hot it may be easily cut by a knife; but when it becomes hard and cold, it gives great resistance even to the saw, like hard caoutchouc. The division of this substance becomes more easy, however, by using a wet instrument, as is done with caoutchouc.

Gutta Percha is much lighter than water. When it is carefully deprived of the water which it contains, it is still much lighter than water, but much denser than caoutchouc. Its specific gravity is 0.9791, while that of ordinary caoutchouc is 0.9355. When Gutta Percha is subjected for some time to a temperature of  $150^{\circ}$ , it disengages a small quantity of water, and loses its white aspect, becoming of a deep-gray colour, and translucent. It very soon recovers its original appearance if kept for a short time in hot water, and even in cold water.

In chemical characters it closely resembles caoutchouc, with which it is identical in composition. From this it differs slightly in the manner in which it is acted on by certain liquids, but it differs chiefly in physical properties. Subjected to distillation by fire, it is converted almost entirely into several volatile or gaseous hydro-carbonated substances, which possess almost the same odour and probably the same composition as the volatile oil of caoutchouc. It leaves a scanty carbonaceous residue.



Warmed in a platinum vessel, it melts, forms a sort of froth, and burns with a brilliant fuliginous flame, diffusing the odour of the oils of its distillation. When a fragment thus half-burnt is extinguished, the residue is altered and changed into a viscid fluid.

The ordinary solvents exercise little or no action on Gutta Percha. Water, alcohol, alkaline solutions, the muriatic and acetic acids, have no effect on this body. Concentrated sulphuric acid gradually chars it. Nitric acid slowly oxydizes it, forming a yellow resinous matter. By ether, the volatile oils, oil of pit-coal, it is slowly softened in the cold, and imperfectly dissolved by the aid of heat. The true solvent appears to be oil of turpentine, which with great facility forms a clear colourless solution, from which the Gutta Percha may be separated by distillation of the solvent. It is also dissolved by chloroform and by naphtha.

Its physical properties appear to render Gutta Percha a very proper substitute for leather, for it is exempt from the inconveniences which prevent caoutchouc from being employed in this manner.

M. Soubeiran subjected to various experiments specimens of Gutta Percha received from the Minister of Commerce, and the following are the results :—

Gutta Percha imported by the China mission has the shape of a round loaf a little flattened at the base. It looks at first sight as if it were closed in an investment of skin ; but attentive examination shows that this exterior covering is only the substance itself in a highly dried condition. On cutting the loaf in two, we see that it is formed by a matter still soft which has been added at several distinct times, and the different portions of which form layers placed over each other. The consistence is tenacious, and in some degree membranous. The odour is that of old cheese, yet some of the odour of leather is also perceptible.

Gutta Percha M. Soubeiran found, like Mr. Solly, to become by heat soft, perfectly plastic, and convertible into all sorts of forms, which are retained with accuracy when the substance becomes cold and firm.

Gutta Percha contains chemically at least five different substances :—

1, Pure Gutta Percha ; 2, a vegetable acid ; 3, caseine ; 4, a resin soluble in ether and an oil of turpentine ; and 5, a resin soluble in alcohol.

The presence of caseine is indicated by the smell of spoiled cheese, which is possessed in a high degree by the article brought from China. This odour was not perceptible in a specimen sent M. Soubeiran from London by the kindness of Mr. Calvert. The vegetable acid is found in the water in which the Gutta Percha has been boiled. Its quantity is very small ; it is associated with a little brown extractive matter, which may proceed from the impurities mingled with the vegetable fluid.

Alcohol at 40° removes from Gutta Percha a transparent inodorous resin, a little soft, which is easily dissolved in oil of turpentine and in ether.



When, after several digestions in boiling alcohol, Gutta Percha was subjected to prolonged boiling with sulphuric ether in a proper apparatus, M. Soubeiran obtained from it a small quantity of a white yellowish resin, which is perfectly dissolved in sulphuric ether and oil of turpentine. This resin possesses in a high degree the smell of leather, and to this must be ascribed the leathery smell which is perceived in the raw Gutta Percha of commerce.

Gutta Percha, after these two processes by alcohol and ether, loses only a very minute portion of its weight. The substance then consists of a peculiar matter very analogous to caoutchouc, and which is pure Gutta Percha. To deprive it of the impurities which adhere to it, solution by rectified oil of turpentine answers best. The solution allowed to rest becomes quite limpid; and when decanted and precipitated by alcohol, the Gutta Percha is separated in a soft mass, which preserves all its properties after it has been several times washed in boiling alcohol. In this state it may be dried in a stove; and M. Soubeiran kept it in a stove heated to  $100^{\circ}$ , where it was softened.

Subjected to definite analysis in a long tube, with a mixture of chlorate of potass and oxide of copper,—after three analytical processes the following results were obtained—

Carbon, 83.5	Water, 11.3
83.5	11.6
83.4	11.5

As it was ascertained that the matter left no trace of cinder it follows that it contained a little oxygen. This M. Soubeiran ascribes to the impossibility of separating completely the Gutta Percha from the two resins with which it is associated.

The composition of Gutta Percha, calculated on the results of the foregoing analysis, is—

Carbon 12 parts,	87.8
Hydrogen 20	12.2

which approaches very closely to the composition of caoutchouc, in which Faraday found

Carbon,	87.2
Hydrogen,	12.8

M. Soubeiran states that he is inclined to believe in the identity of these two substances, though analysis does not pronounce in a positive manner.

Gutta Percha he, nevertheless, admits, is very distinct from caoutchouc as an immediate principle. Its physical properties enable it to perform in industry and the arts, an important part;—the manufacture of whips, impermeable or waterproof soles to boots and shoes, handles of tools and instruments, and a multitude of domestic utensils. It is further a peculiar character of this material, that all articles made from it will be at the same time resisting and in some degree durable; and when they are once unserviceable in their present form, they require merely to be immersed in hot water in order to refit them or to make them serve in a new form.



Hats manufactured of this substance have been recently announced in London. It is well calculated for making bougies, catheters, probangs, and œsophagus and laryngotomy and lithotomy tubes.—*Pharmaceutic Journal, et Journal de Pharmacie.*

*Clinical Lectures on the Gravity and Treatment of Fractures and Wounds by Firearms.* By M. VELPEAU.

ON GANGRENE.

*Gentlemen,*—Gangrene resulting from gunshot wounds is of two kinds: the one produced by a cause *direct*; the other, by a cause *indirect*. The first always exists from the circumstance of the wound itself, and is the result of contusion and of trituration of the soft parts, which are sloughy. It varies in degree: thus it may attack the superficial layers, or the thick parts; it displays itself also more deeply again in the bone than in the soft parts, for these yield under the force of the body producing the wound, whilst the bones which oppose are fractured. This is the gangrene by the cause *direct*, and which necessarily exists.

Gangrene by the cause *indirect* is that of which we shall now more particularly speak. It develops itself under the influence of a wound, and not in the wound itself, which may probably at the time not exist. There are two species of gangrene *indirect*; the first, which develops itself under the influence and from the same cause as the bruise in the organs implicated; the second, which is the result of the inflammation consequent on the wound. The first depends—1, on a lesion of the bone; 2, of the nerves; 3, of the venous and arterial trunks; 4, on injury of the parts.

When a ball traverses a limb and encounters vessels in its passage, many facts may present themselves: the principal artery and its larger branches may be wounded, then gangrene follows almost as a necessary consequence. If the artery alone is wounded, mortification will not supervene.

If the artery and principal vein are wounded at the same time, gangrene will almost inevitably follow, because, supposing that the blood arrives as far as the extremities by the collateral arterial branches, the venous circulation is necessarily interrupted, the blood infiltrates into the tissues, and very soon they become engorged, swollen, and gangrenous.

If there are many large arteries and veins, gangrene will not necessarily follow because an artery and vein have been wounded, for the circulation will be carried on by the others. Thus when the femoral artery and vein have been injured at the same time, gangrene may not result, for the circulation may be established by the profunda artery and vein.

Division of the nerves is a cause of gangrene. In a limb where there are many nerves, as the arm, for instance, the division of one or two nerves is not a cause of gangrene; but, if most of the nerves be injured, paralysis not only follows, but also gangrene.

Division of the skin, whatever may be its extent, never produces this particular disease, no more than lesion of the muscles, provided that the vessels and nerves remain uninjured. Fracture of a bone alone is not a



cause of gangrene, but if at the same time the arteries and nerves are divided, and the soft parts are extensively injured, this will inevitably follow.

Gangrene is a complication of gunshot wounds we must notice, but the surgeon will not rest content with mere observation; he will further endeavour to become acquainted with *indications*, to secure as far as possible, the safety of his patients.

Now, the diagnosis of gangrene is easy; it is known that it has certain characteristics by which it cannot be mistaken, but it is by no means easy to foresee and announce its advance. Yet we may, to a certain extent, foretell gangrene from the injuries produced by the projectile. Yet how many difficulties we may have to encounter at the time when we have to decide if such or such an organ has been wounded, or to deduce the probable pathological consequences. For example:—Hemorrhage occurs; it may not often be discovered whether this proceeds from a wounded artery or vein, because the blood, by reason of the contusion of the parts, does not come out in a stream. The division of an artery may not be productive of hemorrhage, because the vessel may be plugged by a hard clot of blood, or much blood may be infiltrated into the surrounding tissues without escaping externally. Where an artery has been wounded two kinds of hemorrhage may occur: either immediate hemorrhage, or hemorrhage produced by the separation of the clot. Thus the surgeon is often very much embarrassed when he attempts to prognosticate the results of the wound as regards hemorrhage.

If the injury includes more or less the substance of the soft parts, and the ball in its course comes in contact with vessels and nerves, it is probable that gangrene will follow.

In fine, when a gunshot wound has been inflicted, it may, to a certain extent, be anticipated whether or not it will be complicated with gangrene; there are cases, however, in which it is impossible to foresee the results. When gangrene has declared itself, whether it has been foreseen or not, two things remain to be accomplished by the surgeon—to determine the prognosis, and then the mode of treatment.

The *prognosis* of gangrene resulting from a gunshot wound is more unfavourable than if the disease resulted from an ordinary wound. Yet spontaneous gangrene is more dangerous than that which follows wounds from firearms, because it depends more frequently upon causes over which the surgeon has no control: thus a spontaneous arterial lesion may be the result of extensive alteration in the organism, &c.; an arterial lesion may, on the one hand, be the result of inflammation of the vessel, which, in consequence, becomes obstructed; on the other, it may be produced by an entire degenerescence of the artery.

Accidental gangrene is not so serious, for though it may depend on a lesion of the vessels, and this lesion is local, yet art may find a remedy.

We have said that gangrene complicating gunshot wounds is more dangerous than that which follows ordinary wounds—and why? Because the projectiles make the soft parts slough, destroy the vessels and nerves, and fracture the bones. The result speedily of this trituration is a *putrilage*, which exercises a baneful influence on the economy, and sets up the commencement of a species of poisoning.



What should be the treatment of gangrene? It must be altogether surgical, and is summed up entirely in the amputation of the diseased parts. Formerly, when ligature of the arteries was not attempted, it was thought better to leave the dead parts to detach themselves and drop off; but, now it is known how to tie the vessels, amputation is preferred, because, in leaving the gangrenous parts to drop off spontaneously, a bad stump is the consequence, and the bone protrudes in the middle of the flesh; for at the bone the mortification does *not* go so far as in the soft parts. This, as may be expected, produces great inconvenience. It is needful, therefore, when gangrene supervenes, to have recourse to amputation: this is imperative on us if the general health is good; a commencement of infection, however, will be a formal contraindication.

Here, gentlemen, the important question presents itself: is it proper to amputate immediately when the gangrene has manifested itself; or is it proper to wait till its progress is arrested? The surgeons who advocate the latter opinion do it for the following reasons:—Gangrene, they say, produces gangrene; it is never known where it will stop, consequently it will attack the stump.

The vessels are obliterated, not only at the surface of the wound, but even within, to a distance which cannot be determined; and this obliteration may extend through the large vessels into the splanchnic cavities. Moreover, in gunshot wounds there is a shock, a stupor, and an impoisonment—three things which make it most uncertain when the gangrene will be arrested—from which it follows that it is by no means proper to amputate before there are indications of its progress being staid. These are the principal arguments of those who are opposed to an operation before the disease is arrested.

Gentlemen, it is proper here to consider the question—What is the cause of gangrene? When it depends on spontaneous lesion of the arteries it is certainly far better to wait till there are indications of its ceasing to advance, because we are not certain when the arterial lesion will be arrested.

But if the gangrene is traumatic—if the vessel has been opened, and there is no reason to suppose that it is diseased above the wound—it is not necessary to wait for the separation of the parts, for the modification will still go on. The presence of a gangrenous part excites, in the living tissues adjacent, an inflammatory and eliminatory reaction; and the organism, infected by a double source of poison cannot sustain the struggle of the living tissues with the dead, and the system will very soon be exhausted. Thus, in a general way, and *à priori*, it will be better, in gunshot wounds, to amputate at once. Yet this is not an invariable rule.

If, for example, as M. Larry has asserted, the gangrene commences at the extremities of a limb, near the fingers, we must wait till its progress is arrested; but if it show itself in the thigh, or in the substance of the arm, immediate amputation, before the separation of the dead parts, is the only chance of safety which remains to the patient.

Those also who have been operated on before gangrene has been arrested, are found in an unfavourable condition. In general, as you may observe in two men who have lately undergone amputation, the one of an arm the other of the leg, in both of which the gangrene was not arrested,



that the stumps are flabby, suppuration is established with difficulty, and the whole system appears to suffer. These unfavourable conditions exist more rarely when the disease is left to take its own course. The conclusion, then, at which we arrive is, that it is necessary very frequently to amputate before the dead parts separate, lest in temporizing the favourable opportunity may pass away, and thus the only chance of saving the patient be lost; for often, the longer an operation is deferred the more impracticable it becomes.—*London Med. Times.*

*On a Case of Abscess of the Thoracic Walls, simulating Pleuritis and Empyema.* By HENRY CRISP, M. B., London.—The following case occurred in the practice of my friend Mr. Martin, of Haverhill, Suffolk, who kindly gave me an opportunity of watching the patient throughout. It is interesting, from its similitude to an attack of pleuritis, under which disease, indeed, the patient was at first supposed to be labouring. It has also some points of analogy with the case reported in the number of the *Lancet* for July 1st, p. 16, by Dr. Macdonnell, of Montreal.

On the first appearance of the swelling it might have been supposed that there was a collection of pus in the pleura, which was making its way externally; but there were no stethoscopic signs which would indicate the presence of empyema.

J. S——, twenty-two years of age, cabinet-maker, of rather intemperate habits, was attacked, in February, 1848, with pain of a sharp, stabbing character in the right side; he was of unhealthy appearance, and one or two members of his family had died of phthisis. The pain was aggravated by making pressure over and between the ribs, by taking a full inspiration, by coughing, and by any motion of the affected side. There was no audible “rubbing sound,” nor dullness on percussion. Large crepitation could be heard on both sides of the chest, and the respiratory murmur was present in all parts of the lungs, though very feeble. He had a slight cough, and expectorated a moderate quantity of transparent, viscid mucus; respiration was slightly quickened, and the intercostal muscles of the affected side did not act so freely as those of the other side. These symptoms had been preceded by slight shivering; pulse about 80, small and weak; tongue furred; bowels confined; and he had slight thirst. He was ordered aperient medicines, with small doses of tartar-emetic every five hours, and a mild mercurial at night. This treatment was continued for some time, the patient occasionally feeling better, but never entirely losing the pain. The cough still continued, but he was not confined to his bed; his tongue was always much furred, and great difficulty was experienced in getting his bowels to act properly. His pulse was, for the most part, quicker than natural; his appetite was variable, but generally good.

About three weeks from the appearance of these symptoms, he first noticed a swelling over the site of the pain, just below the right mamma; this was boggy and diffused—not very painful on pressure. At first there was little redness, but after a short time the integuments



became of a pinkish hue. There was no dulness of the affected side; the respiratory murmur, though very faint on both sides, was audible all over the chest; pulse about 90, weak; bowels constipated—motions very dark-coloured; his cough still troubles him, and much increases the pain in the side.

About a week after this he had rigors; the swelling became softer, and matter was detected; though this was at first deep-seated, pressure did not empty the sac. Leeches and hot fomentations were employed when the swelling first made its appearance, and appropriate medicines given internally. He became very low; the pulse was quick, weak, and irritable; his tongue was covered with a thick dark fur, and he lost his appetite; the pain was so severe as to prevent his sleeping. Poultices were applied for a few days, and then the abscess was opened. About a teacupful of white, inodorous pus escaped.

Poultices were continued; ammonia and wine, and afterwards quinine, were given internally.

He was very much relieved by the evacuation of the abscess; he slept better, his appetite returned, and he lost his cough entirely. In two or three days, the wound, which had discharged a little, entirely closed, and he gradually but perfectly recovered his former health.—*Lancet*.

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*Poisoning for Burial Allowance from a Club.*—On Friday week last an inquest was concluded at Wickes, near Harwich, Essex, upon the body of a man, named Constable, a hawker, who lodged with his sister, a married woman, named May. He had been entered about a fortnight before his death by his sister as a member of a burial club, which paid £9 on the death of a member. He was then in excellent health. On the 8th ult., he returned home to tea, as usual, and was shortly after attacked with violent retching and burning pains in his throat and stomach. These symptoms continued till the following Sunday, when he died. The moment he was attacked, the sister called in several neighbours to see him. She assured them that it was almost certain he would die; but, strange to remark, no suspicion was excited that anything had been administered to him. On the declaration of the sister, that death had resulted from natural decline, the body was interred in the parish churchyard, she officiating as chief mourner. In the course of a few days she called on the Rev. G. Wilkins, the incumbent, for the purpose of obtaining a certificate that deceased was in good health a fortnight before his death, and that he was in his thirty-eighth year, (forty-eight was his real age.) This he declined giving, inquiring of her what she wanted it for? She replied that she had entered him in a burial club, at Harwich, a fortnight before his death, and that the society would not pay the money allowed for the interment of deceased unless they had a certificate of his good health at the time he was entered. He told her that the money did not belong to her. She said no one else was entitled to it, as she had done it all herself, and nobody else knew



anything about it. These and other suspicious circumstances, particularly the number of children she had buried, coupled with the suspicious death of her former husband, and the hasty and earnest solicitations she made in this instance to obtain the fees from the burial society, led to inquiry, and induced the coroner to direct the exhumation of the body. The stomach and contents were forwarded to Mr. Taylor, professor of Chemistry at Guy's Hospital, who discovered that a large quantity of arsenic had been administered to deceased. A great deal of circumstantial evidence having been adduced, showing an attempt on the part of Mrs. May to tamper with the principal witnesses, urging them not to disclose all they knew, the jury returned a verdict of "Wilful Murder" against the sister Mary May. She was committed to the county gaol for trial at the next assizes. The prisoner has been married twice, and had sixteen children, all of whom, with the exception of one, had died under suspicious circumstances. Their exhumation is expected to take place.—*Bell's Life in London.*

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*Treatment of Secondary Syphilis; Action of Mercury; Anti-Mercurial Medication; Doses, etc.* By M. RICORD.—I proceed with the consideration of secondary symptoms; and I would first direct your attention to the fact that the earlier manifestations are always less serious than the subsequent ones; and that the further we proceed along the links of secondary accidents, the more serious the prognosis becomes. But still, when the transitory and tertiary symptoms come on, they need not be looked upon with very great anxiety, except where no means have been used to arrest them. Iodine of potassium is all-powerful in controlling these affections, and in a very short time too. The particular seat of any syphilitic manifestation may add somewhat to the gravity of the case, particularly as refers to the tertiary forms, and it often happens that they leave after them indelible marks, and great deformity. Important functions may either be altered or entirely abolished by the destruction of certain organs; thus patients may get afflicted with deafness, dysphonia, aphonia, difficulty of deglutition, of pronunciation, &c. I need not insist any longer upon the prognosis of secondary symptoms; you see that they are powerfully influenced by a great variety of circumstances.

*Treatment of Secondary Syphilis.*—We have here, as well as in all other diseases, two indications to fulfil—first, to master the diathesis, and, secondly, to destroy the manifestations. As for the diathesis, I have repeatedly stated that it can be prevented but by the destruction of the chancre within the first five days of its existence; when this period is passed, we are never sure of preventing the general infection, and Hunter was mistaken when he thought he could arrest the chain of secondary accidents by his anti-syphilitic treatment. But I need not enter into this question again, I have sufficiently dilated upon it in speaking of primary sores.

*Treatment.*—There is hardly any remedy which has not been tried in this disease. Before I give you the list of them, it is but fair that



you should know that secondary manifestations may disappear *sui sponte*, without the intervention of any specific treatment. Among the means which have been employed, I may mention low diet, with the avoidance of much liquid; the same, with an abundance of fluids; either of which may be carried on for a longer or shorter period. Attention to diet is, in fact, extremely useful, and it ought to be particularly nutritious with individuals who suffer from debility. Antiphlogistic means are of great assistance, as long as they are not directed against the constitutional syphilis itself; but against local inflammations: they are then very useful. But whenever we have the mere secondary accidents to contend with, antiphlogistics should be avoided, for I am convinced by experiments that the blood in constitutional syphilis becomes very poor, so that it would be senseless to abstract any, and thereby increase the evil. Sudorifics had a great run at one time: guaiacum, sarsaparilla, sassafras, squills, &c., have by turns been extensively used; they may all be said to possess the same amount of efficacy—viz., very little. I generally give them to my patients when I wish to keep them under my observation, but they never arrest any of the accidents. They may, however be used as vehicles for other more useful substances. Purgatives are sometimes necessary to keep the *primæ viæ* free, but they possess no curative property. Among the number of remedies that have been employed, there are some which are well calculated to fulfil certain indications; they may be used as adjuvants, corrigents, &c. Opium is one of them. But the most powerful medication, the only one capable of keeping secondary syphilis in abeyance, is mercury. In order to watch the effects of this metal, we should first thoroughly understand its peculiar action, both in a pathogenic and therapeutic point of view. You all know that the action of mercury on the economy has been differently interpreted by divers observers; it has successively been looked upon as an excitant, stimulant, depressant, antiphlogistic, antiplastic, alterative, modifiant, &c. Some have maintained that it acts from one molecule to another—viz., that it gradually passes through the vessels containing the syphilitic virus, and carries it along with itself out of the system; above all, it is *anti-syphilitic*. Its pathogenic action is anything but constant. Some people are very easily brought under the influence of mercury, whilst others are quite refractory to it by whatever channel it may be introduced into the system. This metal, placed on an absorbing surface, may act directly on the same, and be absorbed a little while afterwards; or it may be absorbed without any local action whatsoever, and the local phenomena then occur *after* absorption. When applied to the skin, it may produce either eczema or erythema, but these eruptions have then no particular character, and the local irritation is an obstacle to absorption. These effects are observed as well on mucous membranes as on the skin. When the mercury is absorbed, it may produce stimulating effects, which bring forth a regular mercurial pyrexia: this is always to be looked upon as a very untoward circumstance, for the specific action is thereby very much impaired. When the mercury is absorbed, it sometimes



re-acts on the channels through which it has passed ; this effect is a sort of *contre-coup*. The first symptoms of the action of mercury on the system, are those of inflammation and increase of secretion, coinciding with a diminution of fibrine in the blood ; but if the inflammation continue, a plastic re-action ensues, the fibrine, on the contrary, is relatively augmented, and the plasticity of the blood is heightened. Mercurial fever is generally followed by diarrhœa, resulting from a species of gastro-enteritis set up by the mercury ; but the most common effect is mercurial stomatitis, or ptyalism.

*Symptoms.*—Patients, before they notice anything abnormal, complain of a metallic taste in the mouth ; the breath is disagreeable, and even fœtid ; the teeth feel uncomfortable, and are acutely sensitive ; they give the patient the idea that they are longer ; they lose their firmness ; the gums seem to grasp them but feebly ; the salivary secretion increases ; the gums turn of a bright red, swell, and become very soft ; the last molar or wisdom tooth, if it have come out, is the first to suffer. I must not forget to mention that these mercurial effects are intimately connected with the presence of the teeth, for stomatitis does not occur when the teeth are quite gone, or before they are cut. Wherever the least pressure is exercised there will be a certain tendency to the development of these symptoms, so that they will generally appear first on the side whereon the patient is in the habit of lying. As the affection advances, a greyish-blue, pseudo-membranous secretion takes place along the margin of the gums ; the tumefaction of the latter goes on increasing ; the swelled parts ulcerate ; and this generally takes place first around the neck of the last molar. The internal surface of the cheeks retains the impress of the teeth on a level with the meeting of the upper and lower ; the ulceration soon involves the cheeks themselves ; the tongue swells, its sides are marked by indentations produced by the pressure of the teeth, and it may even share in the ulceration involving the neighbouring parts ; indeed, it is not rare to see the cheeks, tongue, and gums, attacked by gangrene, and whilst all this is going on, the surrounding textures sympathize, and there is œdema of the cellular tissue and hypersecretion of the salivary glands. These are, however, not yet affected with inflammation ; the abundant secretion is principally owing to irritation of the orifices of their ducts, and you should bear in mind that the inflammation does not primarily originate in the glands. Patients will sometimes eject a great quantity of a glairy, adhesive saliva, which at last comes to resemble diluted mud. If the inflammation is very violent it will react sympathetically upon the system, and general inflammatory phenomena become apparent. An experienced eye will never confound the mercurial effects with those of syphilis, but there are cases where both are combined in such a manner as to be distinguished with much difficulty. Mercurial ulcerations may, for instance, simulate mucous tubercles or patches. The only way to settle the question is, to suspend the administration of the mercury ; the mercurial symptoms will then disappear, and the syphilitic ones remain and be easily recognised. The effects of mercury in regular doses are generally felt towards the beginning of the second week. Mercurial stomatitis cannot appear three or four months after the administration of the metal has been stopped, and those who still held this as possible, have



probably not sufficiently distinguished mercurial from scorbutic stomatitis. When you wish to increase the dose, you must watch the effect of moderate ones for eight or ten days; and you may fully believe me when I say, that the untoward or pathogenic effects of mercury are not the result of its prolonged administration, but that they arise principally from too large doses, continued for a week or two. The metal, the effects of which we are studying, may act on the nervous centres and produce what is called mercurial tremor, but this affection is very rare, when the mercury is given as an anti-syphilitic; you know that it is, on the contrary, very common with gilders and looking-glass makers, who are subjected to the influence of the metal in its vaporized form. Mercury may bring on apoplexy: I remember a very clear case illustrating this fact. The patient sank under the symptoms, and by the chemical analysis of the substance of the brain metallic mercury was discovered. Some people will tell you that mercury will bring on mental derangement: there is nothing very positive known on this head; but still, as its influence is well ascertained to extend sometimes to the brain, it might act upon the intellect by its effects on the encephalon. I am inclined to believe that this mercurial madness is perhaps only a sort of hydrargyrophobia, just as syphilitic alienation may merely be syphilophobia. Both hydrargyromania and syphilomania are, however, extremely rare. We have seen that certain mercurial manifestations, among which are eruptions, salivation, diarrhœa, &c., have generally appeared about eight or ten days after commencing use of mercury; but a long-continued mercurial course may impress upon the economy much deeper pathological alterations. These are of a slower growth, and present a series of quite different symptoms. Mercurial tremor, mercurial paralysis, and mercurial madness, belong to the latter category. When the system is fully under the influence of the metal, the syphilitic eruption may of course be modified by this circumstance; and we often see it in such cases assume more of the vesicular form, and cause a little pruritus, preserving, however, the general characters of a syphilitic eruption. If you should be so situated as to feel rather at a loss how to distinguish in a given case a mercurial from a syphilitic eruption, you will be greatly assisted by noticing the following contrasted characters:—When the two eruptions exist at the same time upon one individual, if you give up the mercury there is no tendency in the secondary eruption to fade away; on the contrary, it will increase in intensity; but the mercurial manifestations will diminish rapidly, and disappear, from the tenth to the fifteenth day. If, on the other hand, you were to keep on the mercury, you would see the mercurial eruption make rapid progress, whilst that resulting from syphilis would gradually disappear. I have several times tried this method, and found it answer remarkably well.

*Anti-mercurial medication.*—If you find mercury doing mischief, I need hardly say that the first thing to be done is to leave it off, and thereby do away with the *origo mali*. Then the *primæ viæ* are to be attended to, and recourse be had to sulphur, either internally, or in the form of baths. This substance is very useful, provided there be no mercurial diarrhœa present. I generally give one drachm of sublimed sulphur, mixed with water, and one ounce of honey. I prescribe like-



wise, acid drinks, of which a very good one is the nitric acid lemonade, which seems to promote the plasticity of the blood. As to local applications, I know no better than hydrochloric acid, brushed, in a concentrated state, over the mercurial ulcerations. The cauterization is to be persisted in until it produces a sanguineous oozing. The pain is very intense, but of short duration, and the patients experience great relief immediately afterwards. The hydrochloric acid may also be given in the form of gargle: five ounces of lactuca sativa decoction, eighty minims of dilute hydrochloric acid, with about five ounces of honey, make a very excellent gargarism. When you cauterize with the concentrated acid, you must be careful to avoid the teeth, for it softens them very rapidly; and common cleanliness as regards the latter and the gums should be particularly enforced. When there is much diarrhœa, opium is indicated. I have always found it an excellent adjuvant and the best corrigent, and I cannot agree with those who have maintained that opium interferes with the specific action of mercury—the experience of every practitioner will at once settle the matter.

*Doses.*—The pathogenic accidents I have enumerated should always be prevented in the administration of mercury; indeed, there are few surgeons now-a-days who, in conformity with ancient customs, push it to profuse salivation, in the treatment of syphilitic diseases—most of them, like myself, only aim at its therapeutic action. The doses are strictly relative—the susceptibility of individuals should be studied, and the amount of mercury regulated thereby. We should always begin with a dose which is not likely to produce any unpleasant effect: this may be either one grain of the protoiodide of mercury, or one grain of the bichloride of the same metal, or the friction of one drachm of mercury ointment per day. The effect of these doses ought then to be watched: if they produce salivation, fever, or diarrhœa, the mercury must be stopped, and these complications removed. If no disturbance is produced by the doses I just named, they may be persisted in as long as we see the disease gradually receding and improving; but if the affection has not received any check after the first five or six days, the doses should be gradually increased, the results watched, and the remedy proceeded with as if the latter dose had been the one given at the outset.—*London Lancet.*

*On Cold as a means of producing Local Insensibility.* By JAMES ARNOT, M. D., Brighton.—The *Lancet* for July 8th contains an interesting paper by Professor Simpson, of Edinburgh, on the substitution of local anæsthetic agents for those of general action: and the publication, in the same number, of a case of sudden death from chloroform, is well calculated to draw attention to his observations. Unfortunately, however, his paper does not hold out much hope of success from any of the local means with which he has experimented.

Eight months ago, I proposed, in a work on “The Uniform Application of Heat or Cold in Various Diseases,” (preface, p. viii.) to substitute local means for producing insensibility during surgical operations. One of the two measures then suggested I have proved to be effectual. I allude to the benumbing effect of cold.

There are many operations in which the only source of pain is the in-



cision of the skin, and more in which this is the principal source. To these, this agent is especially applicable. I have, for example, after using it, made an issue by dissecting off a square inch of the skin without causing pain; and I have made setons without the patients being conscious that the skin was cut. I have little doubt that operations on the teeth, in which ether and chloroform have been so much and often so improperly used, could be rendered painless by the same means. In my "Essay on the Present State of Therapeutical Inquiry," I have spoken of cold properly or uniformly applied as an effectual remedy of one species of toothache.

In applying cold with the views under consideration, I have taken care to avoid reaction and the determination of blood to the part, by reducing the temperature very gradually. To benumb a small portion of skin, a very simple apparatus is required. A small pig's bladder, some pounded ice, and a little salt. The bladder, containing tepid water, is placed so as to cover the portion of skin to be rendered insensible; the ice is then gradually dropped in, and last of all the salt, so as to bring the temperature considerably below the freezing point. The water or dissolved ice is occasionally drawn off from the bladder, (which can be done very conveniently by having previously fixed a bit of metallic tube in it,) and when all sensation has ceased, which I have generally found to be the case after fifteen or twenty minutes, the operation should be proceeded with. A very thin or "prepared" bladder, a broad ring to keep the opening in it expanded, and a thermometer to be placed in it, would render the apparatus more complete, but they are not necessary. Of course, for other purposes, other forms of apparatus would be required.

I cannot doubt that the mode of proceeding I have related might be much improved upon. I have not paid much attention to the subject, but the above hints may be useful to those disposed to prosecute the inquiry. Perhaps, for instance, so low a degree of cold as I have mentioned is not required to produce the requisite degree of insensibility, and if pressure were conjoined with cold, so as to squeeze the blood from the part, and check the circulation, the effect would certainly be more rapid, complete, and extensive. In the little operations I have mentioned, it was unnecessary to use the precaution against injurious reaction of gradually restoring the natural temperature; and even in more important operations, when the benumbing has been of short duration, there might not be a necessity for such proceeding. Should there be such necessity, the work alluded to, in which this suggestion was first made, contains a description of means by which the temperature of a part can be completely controlled; and I shall be happy if the less important purposes of producing insensibility in operations should extend the acquaintance of the profession with these means—the most powerful, perhaps, and certainly the safest, in our profession, of subduing the most frequent and most fatal morbid conditions—inflammation. With reference to the present question, it may be observed, that by thus preventing any morbid degree of temperature, not only may reaction after low temperatures be prevented, but even that excess of inflammation which so frequently causes an unfortunate result of operations conducted in the ordinary way.

*Lancet.*



## MEDICAL SOCIETY OF LONDON.

*Cerebral Disease in connexion with disease of the Ear.*—Mr. Pilcher exhibited the portion of the brain of a child who had been the subject of ear disease. The child sunk immediately, from acute abscess in the left hemisphere of the brain consequent upon the ear disease. On examination after death an abscess was discovered in the lateral ventricle, communicating with the other collection of matter. The latter abscess bore the appearance of being of long standing, and was surrounded by a thick, dark, lining membrane. The question to be decided was, whether this latter abscess was an old or recent formation; if old, it most probably had existed for years. To show the way in which disease of the brain might occasionally, for a time, be masked, or the symptoms suspended, and the disease afterwards prove suddenly fatal, he related the case of a little girl who had suffered from ear disease, attended by much purulent discharge. Convulsions attended the disease, but these became much less frequent, and she recovered almost her usual health. She was so much better, indeed, that the practitioner in attendance was puzzled. The patient one day went to sleep and never awoke. An abscess was found occupying one of the lobes of the cerebellum, capable of containing four ounces of pus, and surrounded by a distinct cyst.

Mr. Hird remarked that the experiments of Mr. Mayo had seemed to establish that when pressure was exerted downwards, as in the last case related, paralysis was almost always the result; but when pressure was exerted laterally, no symptoms might present themselves. He (Mr. Hird) had seen cases in which disease of the cerebrum and upper portion of the brain was present without any, or with but few symptoms; when the disease was situated at the base of the brain, involving the medulla oblongata, symptoms were always present.

Dr. Bennett related a case of extensive disease involving a great portion of the medulla oblongata, which was not attended by symptoms of that mischief, until within a few hours of the death of the patient. The child was of healthy appearance. Squinting was the first symptom that developed itself—this was followed by convulsions. After death a tubercular mass was discovered, involving the greater portion of the medulla oblongata, and as large as a full-grown walnut.

Dr. Chowne related two cases to show that disease of the brain might exist to a considerable extent without any evidence being exhibited of the seat of the mischief. The first of these cases was that of a young woman who was admitted into Charing Cross Hospital with what might be called general illness. She had acute headache; fever, sometimes remitting, sometimes intermitting, and a peculiarity of expression of the face. She died, and an abscess, affecting one hemisphere of the brain, was discovered. In the second case the patient was a young man, admitted into the hospital "very ill," but complaining chiefly, if not entirely, of pains about the right side of the neck, like rheumatism. The neck was fomented. The countenance was peculiar, and such as he had noticed before in cases of brain disease.



He suffered from severe inflammation of the ear, suppuration came on; he lived several weeks, but had no pain in the head. A small abscess was discovered situated at the upper part of the middle lobe of the cerebrum. A yellow, thick, tenacious pus was found in the abscess. He referred to a case, which had been related to the Society some time back, of a merchant who continued to conduct an extensive and anxious business to within two or three days of his death, and on examination it was found that the anterior lobes of each hemisphere of the brain were softened to a considerable extent.

Some discussion followed on Dr. Wigan's theory of the duality of the mind.—*Lancet*.

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*Observations on Utero-Gestation, with suggestions how to arrive at more correct data in respect to the time occupied.* BY C. CLAY, M.D., Manchester, Editor of the British Record of Obstetric Medicine, etc—I have been, for some years, pursuing a series of enquiries into the probable length of the term of utero-gestation, in order, if possible, to arrive at some definite conclusion respecting that much-debated question, and, if possible, ascertain the established laws by which its duration is governed. Hitherto this subject has been exposed to the most conflicting opinions, no two authorities having yet agreed; nor is it likely that anything approaching unanimity can prevail, until some clue is discovered of the existing laws of nature by which the question at issue is regulated, and which has, as yet, escaped the notice of physiologists. The difficulty of obtaining direct evidence respecting correct terms of utero-gestation (on account of the peculiar nature of the enquiry in respect to the human species) will always militate against the accumulation of a large amount of proofs: still there are such on record which cannot for a moment be doubted; and when those, with other general observations, are supported by facts resulting from enquiries and experiments on the domesticated animals lower in the scale of creation, I conceive that we can promulgate a law approaching much nearer the standard of truth than any yet admitted. I have in my possession a considerable amount of evidence, extending over many years of my past life, which fully bears out my opinions, although I cannot at present enter into a minute detail of all the cases, being compelled to content myself with advancing a few observations tending to elucidate positive laws of nature with which hitherto we have been but slightly acquainted.

First, then, utero-gestation, as to time, is entirely a question of age, and when this is understood, the term may with more certainty be fixed. Many cases have occurred in my own experience proving that, though utero-gestation varies in different individuals, *when the circumstances are analogous the time agrees*. Within the last twenty-five years I have attended eleven cases of labour completed as follows:—four before the 15th, and seven before the 16th year. The peculiar circumstances attending most of these cases admitted of nearly correct calculation as to time of impregnation, and they all apparently laboured at the full period of utero-gestation. In five, the



gestation did not exceed 267 days. In two the account could not be depended upon, as the cohabitation was repeated more than once. the remaining four continued beyond the time calculated for such ages, but this apparent discrepancy can easily be reconciled by another conclusion arrived at on the subject, which I shall shortly enter upon, and more fully explain. I have also attended two cases of parturition occurring in the 52d year, in both of which the evidence as to time of impregnation may be considered correct, the utero-gestation extending in both cases to 290 days; and two cases of middle age—one at 25, which as nearly as could possibly be ascertained, extended to 274, and one at 35, to 278 days.

A most important series of experiments relating to this subject have been communicated to the world by the *Buffalo Medical Journal*, U. S., which afford results similar to those I have here advanced.

Experiments on 621 cows—50 calved between 260 and 270 days.

556	"	"	270	"	280	"
14	"	"	280	"	286	"
1	"	"		"	290	"

550 had mucous discharge for 24 hours, all were restless for 12 or 14 hours previous to labour, and all experienced regular pains. Those that calved before 270 days were *heifers* of their first calves. All that went over 228 days were *old cows* with large bellies; so that a cow *seven years old* will probably go 276 days. Experiments were tried of coition without the *heat*, but no impregnation followed.

The results of human gestation, also communicated by the same journal, are as follows—at the age of

17	270 days
19	272 "
30	276 "
44	284 "

If we combine the latter table with the result of my own observations just given, the following respective deductions (as to the term of utero-gestation in the human race) will be something nearer the truth, although very different to the conclusions previously arrived at by physiological writers generally.

15½ years, or near, 267 days

17	"	"	270	"
19	"	"	272	"
25	"	"	274	"
30	"	"	276	"
35	"	"	278	"
44	"	"	284	"
52	"	"	290	"

This table shows plainly that the term of gestation is extended in proportion to the age of the parent; it is, however, but the result of a very limited number of cases; a wider experience, and a greater number of facts must be recorded before it is sufficiently confirmed as a general law, but it is hoped sufficient is here advanced to stimulate the members of our profession to further enquiry.



These results are very remarkable, and highly valuable in affording correct data on which to found a permanent system for calculating this important period. My own enquiries amongst intelligent cattle breeders fully confirm the statements of the American tables, and prove beyond a doubt that in domesticated animals, as for instance in the horse, cow, pig, and sheep, the time of gestation is of longer duration in the old, than in the younger animals; in fact, no difference of opinion exists upon the subject. This also applies to domestic fowls, the eggs of young hens being incubated twenty-four hours sooner than the eggs of old ones; a difference, according to the period of gestation, more remarkable than that occurring in man, or even in the quadrupeds already mentioned. From these circumstances it is evident that the duration of the term of gestation is definitive, certain as to time, unchangeable as all the laws of nature undoubtedly are, and regulated by that beautiful simplicity which characterizes all the physiology of conception, but hitherto unintelligible to the comprehension of man. If this is the case, (and the presumptive evidence is strong in its favour,) all that farrago of nonsense, abounding in our works of medical jurisprudence, is at once dissipated, and there remains a simple and definite law, which is regulated by age, and age alone. The very discrepancies and conflicting opinions of authors ought long ago to have led to this conclusion, but it is to be feared we are too much in the habit of seeking for solutions of disputed questions amidst the intricacies and difficulties of anatomical science, considering "*omne ignotum pro magnifico*," to be satisfied with explanations evident to all who will duly observe the undeviating and simple proofs afforded by nature herself.

Although it is evident that the consideration of this law leads to far more correct conclusions than any yet arrived at, difficulties still remain to be encountered; and except these are properly investigated, it is impossible that the desired correctness can be obtained. This leads us to consider the second law; which, in fact, ought to precede that already spoken of, simply because what we have denominated the first law is, really and truly, dependent on the second. To render this plainer and more easy of comprehension, I would lay down as an axiom that the term of utero-gestation is regulated by age, not of the mother only, but that it is dependent on the age of both paternal and maternal parent. I was first led to the consideration of this case by facts. Four of the eleven cases advanced in the early part of this paper, continued to a longer period than was justified by the calculation of the age of the mothers only; but what were the facts? *These four cases were impregnated by men considerably older than themselves* (two of the men being married, and fathers of families!) In other instances I observed this irregularity, but always attached to couples in which disparity of age existed. It then appeared to me to be only reasonable to consider the term of utero-gestation solely with reference to the ages of both parents. I therefore instituted a number of enquiries with the desire of ascertaining this point, and found that by striking an average of the two ages, and calculating accordingly, I was enabled to arrive at a more correct conclusion.



If for the purpose of rendering my meaning fully apparent, I illustrate a case in figures, the calculation will be as follows. Suppose a female of 20 cohabit with a man of 30, I expected to obtain the correct period of the term of utero-gestation, by calculating the average at the age of 25. Although this afforded a result approaching nearer to the truth than other systems, I speedily discovered that the average was not as correct as might it be; for presuming upon the generally acknowledged fact, that the female arrives at maturity somewhat earlier than the male, it is only reasonable that a corresponding allowance should be made in striking the averages,—thus, for instance, if a female of 20 cohabit with a man of 30, the term of utero-gestation will not be that of 25, but 24; and *vice versa*, for a female of 30 and a male of 20, will probably afford the result of 26 instead of 25. It will perhaps require a series of observations extending over many years, and a system of enquiry conducted by many individuals, to substantiate these positions, and probably some modifications may be necessary; still there are sufficient data already collected, to prove, that the term of utero-gestation is lengthened, or shortened, in proportion to the age of the parents. That this is dependent on the ages of both parents is confirmed by facts which I have frequently observed—viz., that a longer term of utero-gestation than was expected invariably occurred when a young female cohabited with an elderly male; and that a shorter period than was expected from the age of the female, elapsed, when the female, being of considerable age, had cohabited with a male much younger. Reasoning from analogy, these views are fully confirmed by the calculations formed on the observations of domestic animals previously quoted in this paper, and which are facts widely known and generally admitted, except by medical men in reference to the human being.—And why should it differ in the human female? Is it not infinitely more reasonable than the thirty-nine weeks, plus one day, of Dr. Blundell, applied to all ages and circumstances indiscriminately, and which every careful observer knows to be a fallacy? Every work of medical jurisprudence—every legal court record—nay, the private practice of every medical man disproves it.

There are many well-authenticated cases on record, which admit of no dispute, proving that the term of utero-gestation may be extended a few days from one extreme of life to another; but I boldly deny that gestation ever did, or could extend months, or even weeks beyond the usual term; that is when the fœtus and parent are normal in all their bearings. I also declare that two females of the same age, and similarly circumstanced, cohabiting with males of corresponding ages, will experience a similar extent of utero-gestation. These observations are the result of much diligent enquiry, afforded by an extensive practice of many years duration; and now that some few inaccuracies have been satisfactorily corrected, the more we endeavour to test their truth by further application, the more am I convinced of the correctness of their conclusions. I do not deny the necessity of continued enquiries and more general calculation, but I feel certain that



the result will be to substantiate the truth and value of these observations, which are given in this condensed form, more with a view of stimulating to further inquiry than of building a truism on the few facts here given; time and deep research alone can unravel the question, and place the legitimate value on the suggestions here put forward.

One word more respecting the different conclusions arrived at by various obstetric authorities, as to the term of utero-gestation. That they differ the following short summary will sufficiently prove. Dr. Ryan, 272 days.—Dr. Blundell, 274. A great number of authors fix the term at 280. Some again at 283. The laws of Prussia state 302. Code Napoleon, 300. Dr. Rigby cites three cases, one of rape, and two where the act of coition was only once in each, and the terms were at delivery 260, 264, and 276 days; and such differences will ever arise so long as menstrual periods are made the base of calculation; no true period can be fixed upon, except in cases where sexual intercourse occurs but once (the time being known) and pregnancy resulting therefrom. It is evident the different conclusions arrived at by authors may be perfectly true *as individual cases*, but it is erroneous in the extreme to take *any given number of days as applicable to all cases at all ages*. For even where the sexual intercourse has been but once and pregnancy results, such cases vary some little, as asserted in the foregoing remarks, in consequence of the difference of age; still that variation is less than under any other mode. It is the loose manner in which these calculations are made in connection with the last menstrual period that has led to the absurd doctrine entertained by some, that a female may go beyond the natural period assigned for utero-gestation; thus for instance, if a female should happen to have the menstruation checked by some slight morbid interference (a simple cold) and should happen to become impregnated before the next period, for menstruation, such reasoners would have no other resource than to reckon from the last appearance, which (on account of the obstruction previously spoken of, by morbid interference,) would make it appear that the term of utero-gestation had extended to eleven months, when no such a phenomenon had occurred. In fact, I believe it impossible that an extension of utero-gestation (under circumstances perfectly normal in respect to mother and child) can occur for more than a few hours, or a few days, accounted for by the ages of the respective parties. I think it may be very positively asserted that all cases of rape and subsequent pregnancy, as well as authenticated cases of impregnation from one coition, the date of which being known, tend to disprove all the facts of protracted gestation except those referable to morbid interference. I now leave the subject to the consideration of the readers, at the same time assuring them that any facts in support of this new doctrine, or any decidedly negative proofs against it, will be thankfully received.—*British Record of Obstetric Medicine and Surgery.*



## ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

*Case of Malignant Tumour of the Os Uteri, excised during Labour.*  
By J. M. ARNOTT, Surgeon to the Middlesex Hospital, and President of the Society.—The author first referred to cases of scirrhus, cancer, and other malignant growths of the uterus, in a state of pregnancy, proving the frequent fatality of this complication. He also adverted to the opinion maintained by some authors regarding the impropriety of excising the diseased parts under such circumstances, and considered the case he was about to narrate as illustrative of both the advisability and safety of the step in question. The subject of the disease (a lady aged thirty eight) applied to the author, in 1844, for an indurated enlargement of the anterior lip of the os uteri, which was rugged and granular near to the os itself; this was not tender, but bled under the examination. A consultation with Drs. Ferguson and Locock being held, it was agreed that the disease admitted of removal, as the neighbouring portion of the os uteri was healthy; but that, as the patient was at the time in the fifth month of pregnancy, it was desirable to defer operating until after the patient's confinement. Four months afterwards, the author was summoned to meet Dr. Locock, in consequence of labour being protracted by the presence of the morbid growth. This was still limited to the anterior lip and right side of the uterus, and had attained the size of a large green walnut: the tissue beyond and around appeared healthy. The diseased mass and contracted os uteri were forced down almost into view when a pain came on: hooks were fixed to the former, which was excised by a succession of strokes with curved scissors, and scarcely any blood was lost. Immediately afterwards, the os uteri expanded uniformly, and in a quarter of an hour a healthy child was born. The patient had a good recovery. On section the tumour presented a yellow colour and fibrous appearance. After an interval of some months, this patient was again the subject of frequent hæmorrhage; and it was then discovered that the posterior lip and cervix uteri were the seat of a similar disease, which extended this time beyond reach. She lived until June, 1846, sixteen months after her confinement, when she died with all the symptoms of malignant disease of the womb. The author remarked that, in this instance, the lives of both mother and child were saved by the timely surgical interference; but he did not regard the case as illustrative of the usual condition met with in similar cases, which are rarely of a nature to admit of an operation under such favourable circumstances. He then narrated a case which occurred under his notice in the Middlesex Hospital, and in which the cancerous disease was much more extensive. After protracted labour, the os uteri was rent during a violent pain, and before the author arrived to relieve the tension by incisions. Two fœtuses were born at the sixth month, and the patient subsequently rallied. The author concludes by remarking, that in cases similar to the last alluded to, incisions offer the first and best means of relief; but that when the malignant growth is confined to a limited portion



of the os uteri, the alternative of excision, as in the case first related, should be entertained.

Dr. Locock would make a small addition to the first case detailed in the paper. Four or five weeks after delivery, the patient seemed quite well; there was no portion of disease to be detected; and only a small cicatrix left from the operation, a cicatrix which was scarcely to be felt. This lady, having some anxious feelings respecting her case, kept the early symptoms of its return to herself, and it was only after repeated hæmorrhages, and at the expiration of nine months, that he (Dr. Locock) had seen her. The disease had then spread to the opposite side of the uterus, and pressed upon the rectum. The period was then gone by for any remedial means to be employed. The question of the propriety of operating in cases of this kind, during labour, had been mooted. This case showed that such operation was desirable. In those cases, where it was impossible to bring away a living child without operation on the tumour, he could not think that we were justified in sacrificing the lives of both mother and child by non-interference—a result which must occur if we did not use means to prevent it. It was, at all events, the salvation of one life out of two. He should never hesitate, under such circumstances, to attempt to save the life of the child, when possible, without exposing the mother to more risk than she would experience by not operating. Now, in such a case as this, what was the practitioner to do? It was quite clear that there was only one proceeding which offered the least chance to the child—that proceeding was an operation. And let it be borne in mind, that if the child were not attempted to be saved in this manner, there was as much risk to the life of the mother by any other proceeding. Incising the uterus, no doubt, must be done at the risk of the mother, but, if successful, might delay the progress of the disease for some time, though occasionally, as was known, the disease spread more rapidly after operative means had been used for its removal. Still we must never forget, in these cases, that without operation, both lives would be destroyed, with it, probably only one, and perhaps neither.

Mr. Lloyd related a case of cancer of the uterus, affecting the anterior lip of the organ, which was tumefied and thickened. He could pass his finger quite beyond the diseased portion. Various applications were made to this growth, without any beneficial result, and the pain and the discharge became so great that the life of the patient was threatened. Under these circumstances it was determined to remove the diseased portion, and as he was fearful of at once excising so large a part of the uterus, he passed a ligature entirely round the cervix uteri, by which he completely encompassed the tumour. There was some hæmorrhage, and a considerable discharge of serous fluid, tinged with blood; the whole of the enclosed portion swelled enormously, so that the os uteri presented itself at the external orifice. There was so much pain that it was considered desirable to remove the diseased portion at once; this was accordingly done by a stroke of the knife, and the patient made a good recovery. A fungus, how-



ever, presented itself at the point of operation, to which escharotics were applied with complete success. The patient remained well for two years, when ulceration set in and eventually destroyed the greater portion of the uterus. The patient sank, and on examination after death, there was no trace of cancer in any other structure of the body. In three other cases he had removed portions of the os uteri for fungoid disease. In two of these cases the removal was effected partially by ligature and partly by caustic, and finished by an elliptical incision with the scissors. He eulogized the use of the potassa fusa and nitrate of silver in these cases; they prevented hæmorrhage, and sometimes cured the disease.

Dr. Locock said, that in excising portions of the os uteri for diseased growths, it was not necessary to use a ligature; there would be no alarming hæmorrhage from excision. In his opinion, the ligature did more harm than good. He (Dr. Locock) applied caustics after, rather than before, the operation, with the view of getting rid of any portion of the disease which might be left by the knife, and of arresting hæmorrhage.

Mr. Arnott said, that the question of the propriety of removing tumours from the os uteri was one of great importance. In some cases the tumours might be entirely removed, but in other instances you could excise them only. In the first case detailed, excision was resorted to, and there was no hæmorrhage; in the second case, the disease was beyond reach, and the parts were incised only. In the case described in the paper by Dr. West, he (Mr. Arnott) had been called to the patient at twelve at night; the os uteri was situated high up, and there was great difficulty in reaching it to incise it. Notwithstanding what had fallen from Dr. Locock, you might have severe and dangerous hæmorrhage from incisions of this kind. In a case which had come under his care at the Middlesex Hospital, he had excised a portion of the os uteri, leaving the part above the division healthy. He had occasion in this case to apply the actual cautery three times, the blood pumping out to a fearful extent from an artery as large as the radial. The application gave no pain. Four or five days after, hæmorrhage again came on, but was checked by the injection of cold water. It returned, however, in a few hours, and it was only arrested by plugging the vagina.

Dr. Locock should have said, if he had not said it already, that there was no hæmorrhage in these cases which was not controllable by plugging the vagina. In the case related by Mr. Arnott, this proceeding should have been adopted in the first instance.—*London Lancet.*

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*On a new mode of treating Deafness, attended by loss of the Membrana Tympani, associated, or not, with discharge from the Ear.* By JAMES YEARSLEY, Esq., M. R. C. S., Surgeon to the Metropolitan Ear Institution.—Up to the present time, no successful mode of treating perforations of the membrane of the drum of the ear, either



as respects the restoration of the membrane, or the relief of the accompanying deafness, has been discovered. The only means resorted to for the latter purpose have been the removal of pus or mucus from the tympanal cavity, by syringing or rendering it free by passing air through the perforation, by way of the Eustachian tube. Either of these proceedings will often produce a temporary improvement of the hearing in cases where the tympanum suffers from obstruction, but in many others, when such a state does not obtain, they are of little, if of any service. Another mode of treatment, but one directed to the renovation of the drum, is the employment of mercury, with a view to produce "a new creation of membrane." The translator of Kramer's work (Dr. R. Bennett) has referred to such a case, but it was not attended by results that would justify others in pursuing a similar treatment. In this case, one-fourth of the membrane was gone, but, under the influence of mercury (?) a thin pellicle extended over the aperture, which led to the hope that an artificial membrane would form. But, in the first place, I believe a patient would be in much better condition, with a loss of one-fourth of the membrane, than with an artificial membrane or a cicatrix; in the next, I doubt whether the supposed membrane was anything more than a film of mucus, such as frequently fills up a perforation in the drum; at all events, it disappeared as mysteriously as it had formed. The hearing was at first stimulated, but, after the mercurial course, the auditory organ gradually became, as is usual in such cases, more and more torpid.

I have now, however, the extreme gratification of promulgating a mode of relief for deafness attended by loss of the membrana tympani, which will cause great surprise among the readers of the *Lancet*, not less from its extreme simplicity, than from the extraordinary success which generally attends its employment.

In 1841, a gentleman came from New York, to consult me under the following circumstances:—He had been deaf from an early age, and on examination, I found great disorganization of the drum of each year. On my remarking this to him, he replied, "How is it, then, that, by the most simple means, I can produce on the left side a degree of hearing quite sufficient for all ordinary purposes; in fact, so satisfied am I with the improved hearing which I can myself produce, that I only desire your assistance on behalf of the other ear." Struck by his remark, I again made a careful examination of each ear, and observing their respective conditions, I begged him to show me what he did to that ear, which I should unhesitatingly have pronounced beyond the reach of remedial art. I was at once initiated into the mystery, which consisted of the insertion of a spill of paper previously moistened at its extremity with saliva, which he introduced to the bottom of the meatus, the effect of which, he said, was "to open the ear to a great increase of hearing." This improvement would sometimes continue an hour, a day, or even a week, without requiring a repetition of the manipulation. Such an interesting fact could not fail to excite my attention, and it naturally occurred to me



to try so simple a method in other cases. I did so in several which appeared to me to be identical with that of my patient, but I invariably failed. I was on the point of abandoning the idea that the remedy could ever be made available in practice, and of considering either that my American patient's case was unlike all others, or that it depended on some idiosyncrasy, when it happened that a young lady came under my care, by the recommendation of Mr. Squib, surgeon, of Orchard street. She was the daughter of wealthy parents, whose anxiety for her relief was so great as to induce them to bring her to me long after I had discouraged their visits, and openly expressed my inability to relieve her. She had become deaf at a very early age, after scarlatina, which had produced disorganization of the drum of each ear, and the deafness was extreme. Unwilling, however, to abandon hope, her friends continued to bring her to me, in order, as they said, that "nothing might be left untried." With little expectation of success, after so many previous failures, I was induced to apply the new remedy, with some modifications upon my previous experiments. Instead of adopting my American patient's plan, it occurred to me to try the effect of a small pellet of moistened cotton wool, gently inserted and applied at the bottom of the meatus, so as to come in contact with the small portion of membrane which still remained. The result was astoundingly successful. On the evening of a day in which she had risen from her bed with the sad reflection that she must be for ever debarred from social converse and enjoyment, she joined the family dinner-party, and heard the conversation which was going on around her with a facility that appeared to all present quite miraculous. Day after day, the remedy was applied with the same marked success, and eventually she learned the art of applying it herself, and thus became independent of me. It was observed that, until the wool could be brought in contact with a particular spot at the bottom of the meatus, the hearing was not at all benefited; on the contrary, was prejudiced: but the moment it was properly adjusted on that particular spot, the hearing was restored. Subsequent experience, in a vast number of cases, confirms this remarkable fact. It is not merely necessary to insert moistened cotton wool to the bottom of the meatus. Such a manipulation would in most cases add to the deafness. It is essential to find the spot on which to place the wool, and so adjust it as to produce the best degree of hearing of which the case may happen to be susceptible. This of course differs according to the variety and extent of the disorganization.

I quote the above case, not only because it was the first which it was my happiness to relieve by this novel plan, but because I am in a position to show the permanency of the remedy; for recently I have made it my business to write to the mother of the young lady, who states that her daughter "continues to derive the same benefit as ever from the remedy, and that in her case it has been most successful, restoring her to the charms of society, from which she had been almost entirely excluded. It is now scarcely necessary for the members of



her family to raise their voices when addressing her." She adds : " When the aid is removed she scarcely hears at all."

For nearly five years this young lady has used the remedy with undiminished success, and during the same period I have been availing myself of it in the ordinary routine of my practice, stepping neither to the right nor to the left to seek for cases in which it would be applicable, nor ever speaking of its extraordinary success out of the circle of my immediate medical acquaintance. And most probably I should have continued so to do, if it had not happened that a gentleman, an army surgeon, recently consulted me, who having experienced the most happy result from the same mode of treatment, thought proper to publish some account of it in a local newspaper, considering, as he stated, that so important a mode of treatment ought to be more extensively known.

Mr. Griffiths, of Pantgwyn, Newcastle Emlyn, Carmarthenshire, the gentleman in question, (I am at liberty to use his name,) did me the honour to call on me in September of last year, accompanied by Sir David Davies, to consult me about a young friend labouring under an affection of the throat. During the consultation it was necessary for me to raise my voice very considerably to make myself heard by Mr. Griffiths, and I observed that when he blew his nose, he distinctly passed air through the tympanum. After the consultation, I alluded to his deafness, and the probability, that by a new remedy I could afford him some relief, more especially as he had unconsciously revealed to me, in blowing his nose, a state of ear favourable for success. He readily assented to a trial; and I must be permitted to quote his own statement of the result. On the remedy being applied, he says, "To my utter astonishment I heard every sound so loud, that I felt I had never known what it was to hear until that moment. Sir David Davies could hardly have believed it had he not been present. On entering the streets, the noise was so intense, that I was compelled to stop up my ears to deaden the sound; but after a time I became accustomed to it, and can now enjoy the pleasures of social converse without straining my auricular organs, or being obliged to be addressed in a considerable elevation of voice. Personally I continue to apply the remedy with the same beneficial effect, and am convinced of its permanent nature, when persevered in, and properly attended to. This extraordinary discovery comes too late to be of that essential service it would have been to me in earlier life, yet it may render the rest of my days more comfortable in my intercourse with the world."

The following brief history of Mr. Griffith's case, as detailed by himself, is interesting in many points of view:—The crisis of a severe attack of scarlatina in my infancy was attended by abscesses in both ears, which produced deafness, and a continual discharge of purulent matter, more or less, until I attained my twenty-second year, when the latter ceased. Occasionally concretions of wax formed in the passage, increasing the deafness. These were removed by syringing, after which a thin pellucid fluid would issue



from the ears, during which my hearing was much improved, again becoming worse as the discharge ceased. While the discharge lasted I experienced a slight tenderness in my ears, which also ceased with the discharge. I find that your remedy sometimes does the same thing, and that is my reason for not constantly using it; but if it is *not* applied, my hearing is not in the least degree remedied! The discharge is always more profuse when in bed, even without the remedy, and I am somewhat puzzled to account for it. My children know as well as I do when the remedy is applied; and when it is, they remark, 'Your ears are too sharp; we cannot now speak to mamma, even in a whisper; but they cannot, more than other people, discover why I should hear so well one day, and the next, perhaps, not better than usual; and the question now is, 'Have you got your new ears on to-day, papa?' The invention is invaluable."

From this communication, written three or four weeks after his visit to town, it appears that the remedy at first set up an irritation in the ear, which occasionally rendered it advisable that it should be discontinued: but now I am enabled to state that such obstacle to its use no longer exists, and that he applies it regularly, uninterruptedly, and with undiminished success.

This case, like the first quoted, proved to be one in which there was a loss of a great portion of the membrana tympani; and I may here observe, that all my experience tends to show that this is an essential condition of the ear for success. At the present time I can refer to not very far short of two hundred cases, in which the new treatment has been successful, and in all of which more or less perforation or destruction of the membrane exists.

A very small quantity of wool is sufficient. It must be moistened in some fluid without any compression, and gently pushed down the meatus with the point of a probe. I have had constructed for the purpose a set of instruments, which are calculated to meet and overcome every difficulty; for I need scarcely say that it is very easy to talk of passing a foreign body down the meatus, but it is not so easily done. Besides, it is not sufficient to merely pass it down to the site of the membrane; but when there, the spot must be found which it is indispensable the wool should occupy and cover; for then only and not till then, will success attend the application, and the patient regain the hearing.

With a few rules, which, of course, vary with the case, the patient may be taught to manipulate upon himself, and all that is required is to remove the dry wool, and replace it with moist, night and morning, or morning only. This is quite sufficient to maintain the improved hearing in the intervals.

It will be expected that I should say something of the *modus operandi* of this new application; but I can offer nothing that is conclusive. It has appeared to me in some way or other to supply the place of the lost membrane. The moisture is absolutely necessary to its perfect action; for when the wool becomes perfectly dry it impedes rather than improves the power of hearing. Is it possible that



moist wool placed at the extremity of the meatus can transmit the vibrations of sound in the same manner as the natural membrane, or must we look for some other explanation? However, of its relieving this kind of deafness there can be no doubt. Some may feel incredulous at such simple means producing such brilliant results; but in order to substantiate that which I have now written, I propose, in my next paper, to quote the statements of my patients, appended to histories of their cases.

The question as to how far this new mode of treatment can be made available in cases in which the membrana tympani remains intact, is now occupying my anxious consideration, and forms the basis of a series of experiments, pending which I will, with the editor's permission, forward to him for publication some observations on "Internal Otorrhœa," and on "Artificial Perforation of the Membrana Tympani."—*Lancet*.

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*Key to Cholera.* By G. W. MAXWELL, M. D. Calcutta.

PREFACE.

This "Key to Cholera" is a condensed epitome of the practically useful part of a work on the same subject now passing through the Calcutta press; but the uncertainty of its appearance, at a time when cholera is raging here and elsewhere, has induced me to publish this key without further delay.

In this paper I have omitted all that might not prove directly and practically useful, and I have confined myself to giving a natural sketch of the disease, and pointing out the natural indications of cure. I am enabled to do this principally from the circumstance of having had three attacks myself at different intervals of time; and it was only after and from the last (the severest) that I derived any decided knowledge regarding the real nature of the disease.

My views, I was happy to find, corresponded with those of Sydenham, whose principles of treatment had been at last adopted in England. Among other important symptoms, however, the spasms, I find, have not been satisfactorily explained in any English author that I have met with; their nature was, however, revealed to me during my last attack, and their explanation will be found in the other treatise. Suffice it, for all practical purposes, here to say, that irritants to the extremities for the relief of spasms are unnecessary and injurious, and that their cure, equally with that of all the other symptoms in the chain, depends upon the natural system of treatment. The natural system I call that which is indicated and at once explained by the symptoms; that which is the spontaneous, instinctive, and successful choice in the moment of pressing urgency and danger; that which, in spite of all laboured theory or hypothesis, remonstrance or ban, is chosen and eagerly demanded by the sufferer; which in theory is denounced as death, but which in practice enables the patient to rise up with renewed energy and life. Such was the natural system I adopted in my own case, solely directed thereto by the natural instincts, in opposition to all that I had learned from



books, or fabricated in my brain from theory or hypothesis. I found all wanting at the time I most required their assistance. But Nature, the best and kindest physician, directed me to the natural system of cure, whereby I was not only quickly cured, but meanwhile escaped the torments of that destroying thirst which is present in every case.

Now, the chief object in an epitome like the present is to endeavour to explain the principles on which the cure depends, rather than waste time in the enumeration of various remedies which would serve but to perplex and annoy the judgment. With this object in view, therefore, I will briefly describe the progress of disease, and the corresponding symptoms, from which, as a matter of course, the principles of cure will be made apparent; but I will also assist the conclusions of the reader by a reference to my own case.

#### THE NATURE OF CHOLERA.

*The Progress of Symptoms.*—What is cholera? is a question that has been asked a million times.

Cholera is the first stage of fever; the fever of a particular locality—the endemic fever, or the epidemic fever.

Fever is made up of various stages; the collapse stage, the shivering stage, the hot stage, and the sweating stage. All or each of these may be morbidly increased, constituting apparently different diseases, but in reality linked together in inseparable union. It is the morbid increase of the first of these that I have now briefly to consider, viz., cholera morbus.

Here the fever never rises higher, it never reaches the shivering or the hot stages; if it does, it is no longer cholera; the fever has passed from the collapse into the other stages. Those who have had ague will comprehend the term “collapse of fever.” They will recollect having had the paleness of the hands, feet, and countenance (and these generally tipped with blue;) they will recollect the cold smooth feeling of the hands, the nervous sensation about the chest and stomach, and extending over the system (together with others mentioned in the treatise.) These, all or partly present, constitute what I call a “collapse of fever;” and this collapse of fever (in excess) is cholera morbus.

During the prevalence of the epidemic constitution, if an individual sojourn in a locality notoriously febrile, he will imbibe (what I will call for the easier comprehension of the reader) the epidemic leaven or ferment. Now, this ferment will take some time to display its full action, varying according to the quantity taken into the system; but it is generally in the middle of the night following that the effects are displayed; and it is an equal chance whether the individual sinks into the first or collapse stage, or rises from it into fever; hence the explanation of those cases, found in the morning in a high state of fever, which had been first reported as instances of cholera. The development of the stages of fever entirely depends on the changes the leaven has effected. If this change has been such that the blood has become too thick to flow through the lungs, then, as a matter of course, the collapse stage is developed in excess; in other words, cholera asphyxia is exhibited. The blood, unable to pass through the mid-



dle passage into the arteries, collects and swells out the veins, giving that deadly or blue colour to the skin. When the vomiting and spasms come on, this mass of blood in the veins is squeezed with great force, and hence the clammy moisture that is forced from every part during these fits. There is no pulse, because there is no blood in the arteries. There are also lethargy and languor, and oppression in breathing, caused by the blood being all collected in the veins. These make up the principal links of the chain of mechanical symptoms. The other train of symptoms and associate symptoms arises directly from the stomach and bowels. I cannot say which are the most important; the neglect of either may be fatal. They, like the former, spring from the influence of the epidemic leaven. When the blood begins to thicken, that same moment all the functions begin to go wrong. The most important of all the functions, digestion and assimilation, are the first to feel the influence; in fact, it is difficult to define priority; the influence must be immediate, being part of the same circle. The derangement of these functions and the depravation of the blood advance mutually, as a matter of course; neither the one furnishing secretions to the bowels, nor the other nutrition to the blood. The inevitable, invariable consequence of this is the establishment of fermentation of the contents of the stomach and bowels; the abdomen becomes swelled, and the stomach and bowels more or less uneasy; and this uneasiness increases exactly in proportion to the completeness of the changes the alimentary matters undergo. Nausea advances rapidly, followed by a vomiting and purging; and, if there is not a free discharge both ways at first, spasms are induced by the irritating fermenting matters remaining in the intestines; if these are in the stomach or other portions of the bowels, the spasms will be in the chest and upper extremities; if in the lower part of the canal, the spasms will be in the inferior extremities. Examination after death reveals the origin of these spasms in the mucous membrane of the bowels; it is found more or less destroyed in various parts, or covered with ulcerations in protracted cases. The contents of the bowels are found in a putrid state; there are no healthy secretions, and not a particle of bile—the preserving fluid of the intestines, the register of putrefaction. The moment it disappears, fermentation and putrefaction advance rapidly. Its absence is one of the links in the great chain; as also are all the effects resulting therefrom. There is not a single secretion carried on in fully formed cholera—for this plain reason, that there is no circulation; the blood is too thick to pass through the middle passage into the arteries; it remains in the veins, and during each fit of vomiting and spasm it is squeezed, as in a cheese-press, and the clammy moisture forced from it at all parts. Hence observe the chain of actions: the leaven leavening the mass, thickening of the blood, stoppage of digestion, fermentation of the alimentary matters, irritation of the mucuous membrane, vomiting, purging and spasm, all reacting, as it were, on the first symptoms, and increasing the thickening of the blood; all in fact, parts of the chain linked together in inseparable union.



## PRINCIPLES OF CURE

From the foregoing brief illustration of the progress of symptoms, may be readily inferred the principles of cure indicated in the treatment; and the reader has, no doubt, in part formed his own natural conclusions thereon. I will assist him in the correct formation of these by the recital of my own case, from which alone it was that I myself derived any decided views regarding the nature of the disease or the principles of cure.

I must necessarily spin out the case to elucidate the subject, but shall do so as concisely as I can, consistent with the object in view. I had the last attack of the disease about this time last year, in the Northern Circars, where cholera was raging all along the great military roads north and south. My attack was in the evening, between seven and eight (rather unusual with such attacks, which take place generally a little after midnight; the reason of this I have considered in the treatise.)

I had dined rather heartily about three o'clock. After I had gone out, about half-past five, I experienced a disagreeable feeling of distention across the stomach, which, however, nearly gradually wore off for the time, but partly returned, with the addition of nausea, on reaching home. After a while, vomiting suddenly came on, attended with inordinate straining. I drank copiously of cold water to relieve this straining, and after a while it ceased; but it returned again.

I had again recourse to copious draughts of cold water, and after a time obtained relief; but in about a quarter of an hour the nausea, with the vomiting and excessive straining, again returned, and at the same time a sudden irresistible call to stool, when I passed without any exertion a copious, watery, putrid evacuation. I was now fainting, and threw myself down, bathed in cold clammy sweat. A few more involuntary evacuations, and spasms in the toes, feet, and legs (observed first in the right then in the left leg,) convinced me that the disease had no tendency to stop.

I now began to run over in my mind all that I had read in books about the disease, and the best methods of treatment.

*Bleeding* first presented itself; just at the same moment I felt a spasm in the right leg (which was held already by two domestics,) and I immediately began to couple the two together in mind, when, to my astonishment, the spasm changed from the right leg to the left, followed, or rather accompanied by an evacuation, and then a cessation of the spasm. This immediately pointed out to me the nature of the spasms and the cause of the evacuations, viz., that they proceeded from irritation of the mucous membrane, produced by matters resting in the tube; hence I perceived that bleeding could not relieve these particular symptoms; and so I now, in rapid succession, turned my attention to laudanum, but I find the same reasoning apply to it; I knew it would lull for a time, but what security against a recurrence of the vomiting, and purging, and spasm, while semi-stupified by the drug and the disease? What security that it would stop the fermentation of the contents of the bowels, which were irritating the



mucous membrane, causing vomiting, purging and spasm, sinking, and loss of voice? None—and if none, thought I to myself, in my case, where the last meal had been nearly all rejected, then what security in those, where the whole of a large meal has passed down into the small intestines?

I next thought of calomel and opium, but here, again, I found the same reasoning apply. It is recommended to be given in both large and small doses: which was I to follow? I knew not, because I saw not the principle of its exhibition in my case. I could not see how calomel and opium resting in the stomach could remove from the colon a mass of prawns, potatoes or plums, that might be resting there, undergoing fermentation and keeping up irritation—the cause of all the consecutive train of symptoms.

My thirst now was becoming overpowering, my tongue and throat were glued, as it were, together, and I looked in vain to bleeding, calomel, and opium for a relief to this most distressing of all symptoms. I had previously partaken freely of cold water, at first to ease the straining, and clear the stomach (a most important point;) but, as the disease began to be developed, I abstained from its use, under the borrowed impression of its being death in this disease. I am ashamed to say that I was ignorant of, or had forgot Sydenham's principles of cure in cholera.

The thirst, however, became worse and worse, and I determined to relieve it at all hazards, and not add misery to death. Having made up my mind, the next point was the choice of the particular beverage; there was plain water, whey and barley-water, gruel, congee, &c., wine and water, brandy and water, &c. To the last of these I had a repugnance, as every one has in fully formed cholera, and the others would require time and direction for their preparation, which my disease was not able to afford or I to give. Whilst thus ruminating my eye accidentally fell upon a packet of effervescing soda powders standing among a crowd of other remedies and nostrums on the table. It immediately took my fancy; it struck me as the very thing I wanted, and without further delay pointed to it, and made signs for a copious draught thereof. It was soon made and soon swallowed; it was extremely refreshing and agreeable, and the thirst was allayed; no nausea succeeded, and the pleasing anticipation remained of having a repetition of the draught whenever I desired. This I was not long in desiring; in fact, almost immediately after I swallowed another, and continued repeating it whenever the thirst became urgent. Instead of retrograding or remaining stationary, I began to improve; the stools became easier, and the spasms less vigorous and vicious.

I experienced an inclination to sleep, a desire to be covered up, and for something hot to drink (these are the best signs, they point out the disease escaping from the collapse stage.) I had a large tumbler full of very warm but weak brandy and water made, and drank it off. I fell asleep and had five or six hours of profound repose. I awoke bathed in perspiration, and with the exception of a little stiff-



ness and considerable thirst, I felt perfectly well. The thirst was again relieved by the effervescing draughts, and I followed up the principle with a couple of dishes of that most delectable and pre-eminent of all stomachics, tea.

Here ends my case with remarks thereon and inferences therefrom. I have only attended to the display of the principle of cure as best I could. Were I to begin with remedies, I might write till this time next year without advantage.

I do not say that the effervescing draught is the only cure, but it is one which carries out the principle as well as any I know, and it is agreeable and refreshing, and allays the thirst; can be taken in any quantity and is efficacious. I have given it in various instances, in every stage, always with advantage to the disease and gratification to the patient; but from these I do not only judge; it is from having taken it myself, as I have described, that I feel authorized thus to speak regarding it.

Bleeding, both general and topical, may be necessary in cholera when there is much oppression, restlessness, pain, spasm, blue skin, or asphyxia; neither were necessary in my case. People do not die from being bled, even when unnecessary, but from bleeding being trusted to alone, while the principle of cure I have pointed out is not followed up.

Sinapisms and blisters to the legs, &c., for the relief of spasms are unnecessary; the origin of the spasms is in the intestines, as I have pointed out. Hot fomentations to the loins and stomach relieve the spasms of the legs. The wishes of the patient should be strictly attended to; Nature is the best physician; if he wishes for cool air he must have it; if he desires to be covered up he must be so; many perish from being too much covered up at first, when the fresh air would revive them (see the treatise for an explanation of this and other circumstances.) Calomel and opium may be necessary in some cases; in mine they were not, therefore were not used. From it may be defined the nature of those cases that might require their administration. No harsh remedies will do in cholera; all must be of the mildest description—such as will pass in quantity gently along the bowels to remove the fermenting matters; and, above all, they must be such as will be relished and eagerly desired by the sick, and such as can constantly be taken for the relief of the urgent destroying thirst, constantly present from the commencement of the disease.

#### RECAPITULATORY SUMMARY.

I have endeavoured to make this key as concise as possible, consistent with utility. I think it will be found to embrace the most important points connected with the disease. Of all these the irritation of the stomach and bowels claims the first rank; it is caused by the presence of fermented matters. The cure cannot be accomplished till they are removed, or their acrimony blunted; and this must be effected in the gentlest manner by copious diluents, as I have pointed out. I took, in my own case, the effervescing draughts, and



I found them answer admirably; they were delightfully refreshing, and they passed gently downwards, removing the irritation in the bowels. I was solely guided by the thirst; it no sooner returned than I swallowed another tumblerful of the effervescing draught. After taking fifteen at least of these, always with relief and gratification, the disease began to rise through the other stages, indicated by the wish to be covered up, and for something hot to drink, as I have already described.

I will not say a word on the question of bleeding; it is impossible to lay down a fixed rule on this head, or to explain, within the limits of an epitome like this, all the circumstances connected with it; suffice it to say—1. That, if the natural diluent system is early had recourse to, bleeding will seldom be necessary. 2. That bleeding alone will not cure the disease,—for this plain reason, that it cannot remove the fermented irritating matters from the bowels. 3. That the natural diluent system, if early and steadily persevered in, not only removes this irritation, but likewise prevents the further thickening of the blood. If these conditions and their effects, however, from neglect of diluents or other causes, have become urgent, let blood be taken away; it will flow if diluents are now freely given, and the surface kept moist, according to the wishes of the patient.

One parting word, and I have done. Neglect not the desires of the sick. Behold the mortality within these few days. How many in the spring of life have been swept away!—What has the withholding of liquids, covered up, and friction done, save adding misery to death!

APPENDIX.—Now, in tributary justice to the memory of the illustrious Sydenham, I must add the following quotation from his celebrated works, by which it will be perceived that I have done little else save re-echo the treatment of cholera pursued by him in England nearly two hundred years ago.

*Sydenham's Treatment.*—Let a chicken be boiled in about three gallons of spring-water, so that the liquor may scarce taste of the flesh. Several large draughts of this are to be drunk warm, or, for want of it, of posset drink. At the same time I order a large quantity of the same to be given at several times successively by way of clyster, till the whole be taken in and discharged by vomiting and stool. In this manner the sharp humours are either evacuated, or their acrimony blunted. When this business is over, which requires three or four hours, an opiate completes the cure.

*Swan's Observations, 1742, in Sydenham.*—The general indications of cure in this disease are—1st, to correct and soften the acrimonious peccant matter, and fit it for expulsion, and, if there be occasion, to expel it by art; 2d, to check the violent motions in a proper manner; and, 3d, to strengthen the weakened nervous parts.

The discharge of fermented and corrupted diet should be encouraged by gentle emetics, lenient cathartics, and plentiful dilution with whey, thin water-gruel, the small chicken-broth recommended



by our author, and the like, and afterwards give strengthening medicines to complete the cure.

Cold water is esteemed an excellent remedy in Asiatic cholera; and is said to be so much the more effectual, the warmer the climate, season, and constitution of the patient be. It mitigates and takes off the violent heat, dilutes and blunts the acrimony of the humours in the bowels, &c.—*London Med. Times.*

*On an instance of extensive Malignant Disease of the Lungs and Heart, with caries of the ribs, clavicle and vertebrae.*—By D. W. EMMETT, Esq. Surgeon, Darlington.—T. B., aged sixty-four, a weaver, came under medical treatment about the middle of April, 1846, complaining of pain, generally referrible to the cardiac region, accompanied by some degree of dyspnœa. His general appearance betokened ill health, his skin having a dirty, sallow appearance, and countenance being haggard and careworn. He had been gradually failing for some months—at times troubled with slight cough, unaccompanied by expectoration. On stripping him, and examining the chest, the upper part on each side was found flat. Over the cardiac region a little fulness was perceptible. On percussion, a marked difference in resonance was perceived, the whole of the left side emitting a peculiar dull sound. The right side was normal. On applying the stethoscope, a little crepitation existed under the right clavicle; otherwise the right lung appeared healthy. On applying it over the left lung, the respiratory murmur was completely inaudible, posteriorly, as well as in front and laterally. On the patient's coughing forcibly, and heaving a deep sigh, an indistinct noise was heard in one or two situations, corresponding with the division of the bronchi. On more minutely percussing the cardiac region, great dulness was observed. Sounds of the heart normal, but indicated great weakness. A simple course of treatment was adopted, with an opiate at bedtime. He experienced a slight amendment in his general health, but the "pain from the heart shoots down his left arm." Ordered, a stimulating liniment, with tincture of opium, to be rubbed into the chest night and morning, and the opiate to be repeated night and morning.

May 28th.—There was marked disturbance in the heart's action; breathing short, accompanied by intense pain; could not bear examination. Calomel and opium gave considerable relief; and as this appeared due to the opium, he was put entirely under the influence of that drug, and of morphia and hyoscyamus. Sounds of the heart remained normal; but attacks of syncope occurred, and this symptom soon became alarming, from its frequent occurrence and long duration. It would be tedious to report his progress minutely; he continued in a state of great suffering, in spite of opiates. The pain in the cardiac, subclavian, and scapular regions, became more intense; and when percussed, he experienced, apparently, electric shocks, his whole frame starting with agony. The cellular tissue over these regions became œdematous, though giving more the idea of emphysema than œdema. On the right side moist and indistinct râles were heard, the



respiration was slow, but a small portion of lung seemed to be acting. Towards the last, the manual examinations were omitted, as the slightest tap distressed him. The faintings became more frequent, the pain more agonizing, the difficulty in swallowing greater, until death relieved him from his sufferings, on the 30th of July.

*Post-mortem examination, twelve hours afterwards.*—The examination was made by C. Boromar, Esq., of Leicester, and myself. The body was considerably emaciated, and decomposition already commenced. On raising the sternum, the left side of the chest was found densely filled with a hard, unyielding substance; the right lung very much collapsed. The heart was firmly pressed against the thoracic parietes, and the pericardium was adherent. On endeavouring to remove the contents of the thorax, we found the whole of the left lung was converted into a mass of cretaceous tubercular matter, firmly adherent, in the whole extent, to the costa. The right lung presented a remarkable difference, breaking up like so much moist tissue paper, and covering the hands with a black fluid, having every appearance of being a melanotic production; but a very small portion of the inferior part of this lung was capable of carrying on respiration. On opening the pericardium, the heart was found about the natural size, though rather atrophied. The valves were quite healthy; lining membrane of heart dark, as if saturated with black, putrid blood; substance of heart very soft. In the wall of the left ventricle, Mr. Boromar discovered a large scirrhus tubercle, or rather tumour, about the size of a walnut, of a cartilaginous hardness, the centre not so firm as the exterior. On further removing lumps of the strangely metamorphosed left lung, we found the first, second, third, and fourth ribs quite carious and brittle; the under surface of the left clavicle was sharp, rough, and in the same condition. We found the vertebræ diseased to a much greater extent than I should have thought likely to exist, without having caused more characteristic symptoms to exist. The first and second dorsal vertebræ were so perfectly carious, that the finger could be readily placed upon the theca of the spinal cord. None of the other viscera showed any marked disease. The brain was not examined. The œsophagus, as expected, was found flattened, and partially obstructed, by the pressure of the diseased mass, fully accounting for the difficulty experienced in swallowing.

I was much puzzled, at first, with this case. Everything showed that great structural change had occurred, but of what nature could not be so easily detected. The stethoscope was of use, though negatively, assisting considerable in deciding *what* the disease was *not*. Hydrothorax, hepatization, aneurism, &c., were all dismissed, and the case considered to be one of some rare organic alteration; and judging from concomitant symptoms, very probably malignant. The prognosis and treatment, after this decision, became readily determined. He was consequently placed as much as justifiable under the influence of opiates, morphia, and compound spirit of sulphuric ether. It is gratifying to reflect that the old veteran (he had



fought at Waterloo) was not tortured by a meddlesome and experimental mode of treatment, as the result proved that all such must have been attended with disappointment. We were obliged to discontinue the examination, Mr. Boromar having an engagement elsewhere, and my attention being directed to a wound in the finger, caused by a spicula of carious bone.—*London Lancet*.

*Formation of Images on the Retina.*—Baly and Kirkes remark that it has been found by Volkmann that, in order to perceive the image of a bright object depicted on the retina of a human eye, it is not necessary to make an opening into the sclerotic and choroid coats, as formerly directed, for it can be perceived through these tunics almost as distinctly as through the transparent tissues of the eye of the white rabbit or other albino animal. For this purpose an individual should be selected in whom the eyes are large and prominent, and whose sclerotica possesses an unusual degree of transparency, as denoted by the bluish tint which it presents through the conjunctiva. When such an eye is directed as far outwards as possible, and a luminous object is then placed at the outside of it, at an angle from  $80^{\circ}$  to  $85^{\circ}$ , the image of this object may be detected at the inner angle of the eye appearing through the transparent sclerotica. Sometimes this image is so distinct that the inverted position in which the object is depicted on the retina may be clearly discerned.—*Med. Times*.

*The Academy of Medicine, Paris*, has named a commission charged with the duty of drawing up a work on all the questions which attach themselves to the process of poisoning by the salts of lead, and in particular on the prophylactic means to be applied to establishments where these products are fabricated. This subject involves a crowd of questions in therapeutics, in chemistry, and in public hygiene of the highest interest, and which will be worthy of the profoundest inquiry. Such are, for instance, the question whether the solubility of the salts is or is not a condition indispensable to their absorption—the question of chemical neutralizing agents. The present great development of the poisoning diathesis gives importance to any extension of our means of combating its awful results. We shall look with interest for the report of the academy, to lay it before our readers.—*Ibid*.

*Heating Power of Low Charges of Electricity.*—In a lecture delivered at the Royal Institution, on Saturday last, Mr. Faraday demonstrated by a simple experiment that coal-gas might be ignited by a very feeble electric spark. He insulated on a glass stand a globular iron vessel containing the condensed gas. He then applied to it, twice, a glass tube which had been each time rubbed with a hare-skin. On applying the point of the forefinger near to the mouth of the jet from which the gas was escaping, the small spark which escaped was sufficient to ignite the gas.—*Ibid*.